

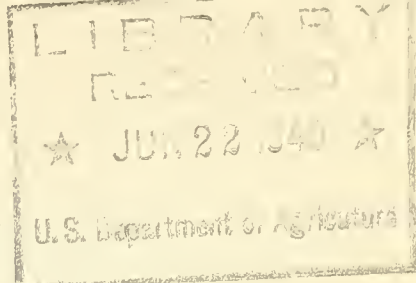
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THE INSECT PEST SURVEY  
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## THE MORE IMPORTANT RECORDS FOR MAY

Grasshoppers developed rapidly during the month in the southern part of the infested territory, but hatching and development were delayed by inclement weather in the northern part. In California and southern Arizona Melanoplus mexicanus Sauss. is doing considerable damage, and in scattered localities over the entire area it is doing some damage. In the southern part this species is reaching the adult stage and is mating. In the eastern parts of Colorado and New Mexico, the area infested by Dissosteira longipennis Thos., the hatch was almost complete by the middle of the month; however, the weather somewhat delayed development and activity. The hatch of M. bivittatus Say was half completed by the middle of the month in Colorado and just started at this time in northwestern Iowa, southeastern Nebraska, and in Minnesota and the Dakotas. By the 25th of the month hatching was occurring generally over the area and in Sheridan County, Wyo., where this is the predominant species, hatch was half completed. M. differentialis Thos. had almost completed hatch in Arizona by the middle of the month and by the 25th it was causing some injury. The species was hatching in Colorado and the Panhandle of Nebraska by the 25th of the month. Hatching had not started at this time farther north. Camnula pellucida Scudd. is abundant in Orange County, Calif., and Sanpete County, central Utah.

The Mormon cricket has hatched throughout the infested territory. Migrations have started in some places. In Wasco County, Oreg., and Franklin County, Wash., mating and egg laying have started. Light infestations occur in south-central South Dakota and the Panhandle of Nebraska.

Reports of injury by cutworms were received from scattered localities over the country. Considerable damage to cotton occurred in the lower Rio Grande Valley of Texas. The pale western cutworm occurred in outbreak form in western Kansas, through the Texas Panhandle and in eastern New Mexico. The variegated cutworm is occurring in the San Francisco Bay area of California.

The armyworm occurred in destructive numbers in central Oklahoma during the first half of the month. Larvae were collected in two counties in northwestern Mississippi the last week in April, but no damage was reported.

Heavy flights of May beetles occurred over the northeastern quarter of the country. Trees are being defoliated in some places. Damage to cotton by adults was reported from one county in Texas.

Wireworms are injuriously abundant in New York and Connecticut. The prairie grain wireworm is injuring seed potato in North Dakota. The sugar beet wireworm was reported as damaging corn, sugar beets, onions, lima beans, and tomato in southern Idaho, southeastern Washington, and southern California.

An outbreak of Say's stinkbug is occurring in southeastern Arizona, where wheat and barley are being severely damaged.

Most of the chinch bugs had migrated from winter quarters to small-grain fields by the third week in the month. In one county in Iowa the insect was occurring in corn. The insect is sufficiently numerous in parts of Illinois, southern Iowa, southeastern Nebraska, and northeastern Oklahoma to cause considerable injury to small grains and later serious damage to corn, unless prevented by natural or artificial means.

The pea aphid severely injured alfalfa in Arizona, Utah, and Nevada. The attack in Washington and Oregon does not appear so severe as usual. No injury to peas has been reported in the East.

The eastern tent caterpillar is abundant in the northeastern part of the country; however, it is not so abundant as it has been during the last few years.

The codling moth began to emerge on May 6 in southern Indiana, western Kentucky, and southern Missouri, and also in Maryland, although moths were not observed in Virginia, Delaware, and Ohio until the 15th of the month. No emergence has been reported from New York. The cool, rainy weather hindered oviposition in all Eastern and Middle Western localities; however, eggs were observed as early as May 10 and larvae by May 21 in the lower Ohio Valley. The season is early in the Pacific Northwest, moths being observed on April 17 in the Yakima district and on April 22 in the Wenatchee district of Washington. No egg laying reported in the Willamette Valley of Oregon up to May 18.

The fruit tree leaf roller is unusually abundant in New York, Ohio, Indiana, Illinois, and Missouri.

Fruit aphids are unusually scarce throughout the East. The rosy apple aphid seemed to be building up populations slightly in New York, Pennsylvania, Indiana, and Kentucky by the end of the month.



The oriental fruit moth is emerging and a few twigs were found infested in Virginia. Full-grown larvae reported from the Fort Valley, Ga., district. The insect was reported from Texas for the first time, having been discovered on wild plum in the eastern part of the State.

The plum curculio is 3 weeks later than usual at the Fort Valley, Ga., district and the infestation is lighter than usual.

The Colorado potato beetle is appearing on potato and tomato from New York westward to Missouri and southward to South Carolina and Mississippi, as well as in Utah and Washington. Considerable injury is being caused in Missouri and Mississippi.

The Mexican bean beetle is appearing in the Northeast and rather severe infestations are developing in the South.

The bean leaf beetle is more abundant than usual in the South and is present as far north as Illinois.

The boll weevil is unusually scarce throughout the Cotton Belt.

The cotton flea hopper is appearing in considerable numbers in Texas.

Cotton aphids are injuriously abundant in most of the Cotton Belt.

Brood XIV of the periodical cicada is beginning to appear.

Cankerworms are abundant in the Northeast and extend as far west as Nebraska and Kansas.

Aphids on rose reported as injurious in many scattered localities throughout the country.

# GENERAL FEEDERS

## GRASSHOPPERS (Acrididae)

California. S. Lockwood (May 21): The situation over the entire alfalfa region of the Imperial Valley continues to be serious. Outbreak on approximately 165,000 acres of alfalfa entirely composed of M. mexicanus Sauss. This species is causing all the loss and is the dominant one in the Palo Verde Valley, around Blythe, Riverside County, where they have numbered as high as 50 per square yard of alfalfa. They are now mating, and oviposition is expected within a short time. The devastating grasshopper (M. devastator Scudd.) and the valley grasshopper (Oedaleonotus enigma Scudd.) are destructive to potatoes and water-melons in the cultivated areas around Temecula, Riverside County. In some areas they have numbered 500 per square yard. M. devastator is the principal species on the western side of Kern County, extending from Grapevine to Edison, although O. enigma is also present. These species have numbered 200 per square yard in some sections, although this is considerably higher than the average. Infestations on the western side of Fresno County have not developed as expected. Egg hatch has been affected by adverse weather, and those that have hatched have been disposed of to a marked degree by above-ground predators. Grasshoppers are now developing in serious numbers in Humboldt County, south of Eureka. Two species of Melanoplus and one of Locustana have been observed in the outbreak there.

B. M. Gaddis and assistants (May 12-18): Grasshopper infestations continue to be serious in Kern, San Diego, Imperial, and parts of Merced, Humboldt, and Riverside Counties. Several heavy infestations in the Sacramento Valley are beginning to appear; however, in some areas of the Sacramento Valley and on the west side of Fresno County, many eggs have been destroyed. In the Aliso Canyon area of Orange County, mature Camnula pellucida and nymphs of O. enigma are sufficiently numerous to necessitate poisoning.

<sup>1/</sup> Colorado. (May 12-18): The hatch in the Dissosteira longipennis Thos. area is about 50 percent complete, with 99 percent of the nymphs still in the first instar. It is evident as the hatch progresses, that egg beds cover considerably more area than was expected from the fall egg survey. Week-old nymphs have spread until they cover about twice the area of the original beds; however no definite migrations are apparent as yet. Spotted infestations of M. mexicanus Sauss. are present on idle and abandoned land in Pueblo, El Paso, and Lincoln Counties, with some marginal populations running as high as 75 per square yard. In one coulee bottom 275 nymphs per square yard were found on an acre of land. In Boulder and Larimer Counties the infestations are spotted and generally not alarming, with field populations ranging from less than 1 to 75 per square yard. The infestations are confined principally to

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<sup>1/</sup> Where no name is given after the State the report is by B. M. Gaddis and assistants.



alfalfa and idle fields at present. The hatch of M. mexicanus, M. bivittatus (Say), Aeoloplus turnbullii Thos., and Aulocara ellioti Thos. is from 50 to 75 percent complete. Camnula pellucida, M. differentialis (Thos.) and M. femur-rubrum (Deg.) have just commenced hatching in these counties. Marginal hoppers are shifting into the fields as they hatch and slight damage is becoming evident in the heavier populated fields. Weather conditions the past week have been unfavorable to the hatching and activity of grasshoppers in the more northern portion of the State. (May 19-25): No new D. longipennis areas other than those shown in the fall survey have developed in the southern portion of the State; however, within known areas new beds are being found. Approximately a 90 percent hatch has occurred in the area as a whole. Populations on May 25 averaged from 500 per square yard in concentrated bands to 50 per square yard in more scattered locations. Adverse weather conditions during the last 2 weeks have delayed hatching and nymphal development considerably. First-instar nymphs are scattering and in many places cover 20 times the area of the original egg beds. Weather conditions, together with bird predatorization, occurring as it did at the height of the hatching period, has resulted in population reductions of as much as 80 percent on some egg beds. In Logan, northern Washington, and Morgan Counties, in northeastern Colorado, populations are generally low and not alarming excepting in several scattered localities. Heavy infestations are present in stubbled-in winter wheat and wheat planted in disked stubble fields in the vicinity of Kelly, in Logan County. Populations there range from 50 per square yard in the fields to 250 along the margins. Hatching of M. mexicanus, M. bivittatus, Aeoloplus turnbullii, Aulocara ellioti, and M. packardii is from 75 to 100 percent complete. M. differentialis and M. femur-rubrum are hatching. Grasshopper movement and feeding have been retarded by the adverse weather and little crop damage has resulted.

Arizona. (May 12-18): In the lower Yuma Valley of Yuma County, grasshopper infestations are spotted and in the crop areas populations range from 5 to 10 per square yard along field margins and grassy areas within alfalfa fields. M. mexicanus and M. differentialis are present, with about 90 percent of the M. mexicanus in the adult stage, whereas 80 percent of the M. differentialis are second and third instars with the remainder in the first and fourth instars. Hatching is thought to be almost complete in this area. In Maricopa County there are numerous, scattered, local infestations with from 20 to 40 hoppers per square yard in most of the farm sections. Most of the M. mexicanus here are in the adult stage, whereas with M. differentialis 70 percent are in the second and third instars and the remainder are in the first and fourth. In the Sunset and Bonita areas of Graham and Cochise Counties where infestations have been severe for the past 3 years, it appears that a lighter infestation may be expected this year. M. mexicanus is the dominant species, with 65 percent in the adult stage. (May 19-25): Infestations continued to be serious in Maricopa, Yuma, and parts of Graham and Cochise Counties. Several heavy infestations of M. differentialis are beginning to appear in the West Chandler and South Glendale districts of Maricopa County. Populations in these areas range from 50



to 200 per square yard and noticeable damage to alfalfa along field margins is appearing. In the southwestern portion of the State M. mexicanus are now mating and many females are filled with fertile eggs. M. mexicanus are approximately all in the adult stage, while M. differentialis are 50 percent first instar, 30 percent second, 15 percent third, and 5 percent fourth. Heavy populations are present in the East Verde River and Tonto Creek areas of northern Gila County.

W. A. Stevenson (May 11): An outbreak in the farming district of Marana, northeastern Pima County, discovered on May 3. Most of the individuals involved were the common desert grasshopper (Trimerotropis pallidipennis Burm.). This species is not considered a serious pest of cultivated crops in this section of the country. As all found were adults on May 6, it is believed that there will be no damage to crops.

C. D. Lebert (May 21): Several migrations of T. pallidipennis observed in Phoenix, Maricopa County, during the first week of May. Extremely abundant and annoying for several days, but no damage to ornamentals was recorded.

New Mexico. B. M. Gaddis and assistants (May 12-18): In the D. longipennis area in De Baca, Chaves, and the Quay area of Quay County, less than 5 percent of the original known infestation remained May 14. The scattered bands present were small, averaging less than 1 acre in size. Ten bands found on May 13 averaged less than 5 acres in area. Populations in the bands average about 500 per square yard. In the Ima school area of Quay County, there are probably 3,000 acres infested with populations averaging 100 per square yard. In the D. longipennis area of New Mexico as a whole, the hatch was 98 percent complete by May 14. In Chaves and De Baca Counties, 15 percent were third instar, 80 percent fourth instar, and 5 percent fifth instar. Where fourth- and fifth-instar nymphs predominate in De Baca County, the bands are definitely migrating when conditions are favorable, but there is no definite consistent direction to the migrations. In areas where first-, second-, and early third-instar nymphs are dominant there is little activity except milling about on, and spreading from, the egg beds. (May 19-25): About 60 percent of the D. longipennis are in the fourth instar, 5 percent in the fifth, and the remainder in the second and third.

Nevada. G. G. Schweis (May 20): Hatching is occurring in many of the counties in the State, and control operations are now in progress.

B. M. Gaddis and assistants (May 12-18): M. mexicanus in Douglas and Esmeralda Counties made up from 75 to 90 percent of the grasshopper populations with nymphs in the first, second, and third instars. In the irrigated areas the hatch is 100 percent complete. In Nye and southern Lander Counties, M. occidentalis is 100 percent hatched. Second to fifth instars are present. In Nye County baiting operations have reduced original populations from 500 grasshoppers per square yard to 50 per square yard. Hoppers are migrating in all directions. (May 19-25): The M. occidentalis are 50 percent in the fifth instar, 20 percent fourth, and 30 percent adult, and rapid migrations are reported now occurring. In the irrigated sections hatch has been retarded in many instances; however it is expected that hatching will

continue more rapidly as the ground dries out.

Utah. G. F. Knowlton and assistants (May 3): Grasshoppers, mostly Melanoplus sp. and largely in the first instar, occur at the rate of from 3 to 5 per square foot in some fields examined in localities in northern Utah. (May 6): Hatching has increased noticeably in fence rows and in some alfalfa fields in Davis and Utah Counties, northern Utah. (May 11): Nymphs, mostly in the second and third instars, numbered 10 to 50 per square yard on idle land adjoining a farm in the Ouray Valley, Uintah County, on May 7. Early maturing species had been winged for several weeks in this area. The heaviest outbreak is of A. elliotti. Hatching is occurring rapidly at Randlett. Reports received of heavy hatching on ranches in Skull Valley, Tooele County, and grasshoppers are becoming abundant in Millard County, beginning to damage alfalfa. Both counties are in western Utah. (May 16): Hatching is taking place in large numbers at Minersville and on parts of Milford flats, both in Beaver County, southwestern Utah. (May 21): Very abundant and beginning to damage crops at Scipio, eastern Millard County. Adults of M. mexicanus, M. packardii Scudd., Arphia pseudonietana Thos., and Hippiscus corallipes Hald. are common now west of Tooele, and crops are being injured. Reported on May 20 that the warrior grasshopper (Camnula pellucida Scudd.) is causing a very serious situation near Ephraim, Wales, and Manti, Sanpet County, central Utah. Populations of 100 to 1,500 per square yard are present in hatching grounds. (May 28): M. mexicanus is becoming winged on bench land east of Clearfield, at Layton, and at Kanarraville, and adults are common in foothill and range land south of Draper and east of Bluffdale, Utah County.

B. M. Gaddis and assistants (May 19-25): Marginal damage to alfalfa is becoming common in various localities in Salt Lake, Davis, Weber, Millard, and Beaver Counties. M. mexicanus, the dominant species, had reached the adult stage in Tooele County by May 21. On idle lands lying adjacent to cropped areas, rapid drying is causing heavy concentrations of hoppers along field margins. Sea gulls are reported consuming large numbers of nymphs in Davis, Weber, and Box Elder Counties.

Kansas. (May 12-18): North of Dodge City, in Ness County, A. turnbullii were just commencing to hatch during the fore part of the week. In the more southwestern counties of the State south of Dodge City, A. turnbullii were in the second and third instars, confined mostly to small, isolated waste or pasture land. Roadside margins have populations of 20 to 30 per square yard. (May 19-25): Infestations in the uplands of the Dodge City area as a whole are either threatening or severe, with the severe areas spotted and confined more or less to idle or abandoned lands. A severe infestation is present in the Arkansas River Valley from the eastern edge of Ford County to the western edge of Kearney County. Populations range from 100 to 150 per square yard but are limited to the immediate vicinity of the river in cultivated land, being especially heavy in and around alfalfa. Cool temperatures and scattered rains have prevailed over most of the western portion of the State during the week, consequently retarding the development of the hoppers. At present there



are few grasshoppers east of Wichita and heavy populations are not encountered east of Pratt. Most nymphs in the eastern portion of the infested area are still in the first and second instars, while in the southwestern portion of the State, populations have not progressed as rapidly as was anticipated. The dominant species is A. turnbullii. Little movement of populations has occurred and most of the nymphs are still concentrated in pastures and other places having a thistle cover.

Nebraska. (May 19-25): In the Sand Hill area, hatching of M. bivittatus and M. mexicanus was beginning on May 13. M. confucius is in the third and fourth instars in this area and at present is the dominant species hatched. Examination of Daws, Sioux, and northern Box Butte Counties showed infestations to be comparatively light, with the hatch particularly slow in the pine ridge regions. M. differentialis was reported to be hatching in spotted areas in the Republican River Valley of Dundee, Hitchcock, and Red Willow Counties on May 17. Heavy infestations present in southwestern Box Butte, northwestern Morrill, west-central Cheyenne, and southwestern Deuel Counties. Populations up to 175 per square yard along field margins and 75 per square yard in the fields are present; however, except for alfalfa and idle lands, most infestations are marginal. The hatch of M. differentialis has just begun in the Panhandle area of the State. Cool, cloudy, and windy weather has curtailed grasshopper activities and damage is just beginning to show in marginal weeds and grasses. In the central portion of the State, 'hopper were dispersing from margins several yards into wheatfields and injury to grain was noticeable. In the extreme northeastern portion of the State, grasshopper development has advanced little since last week. The predominating species, M. differentialis, is in the eye-spot stage. Adult M. mexicanus were reported near Oxford, in Furnas County, on May 23. Hatch of the predominating species, A. turnbullii, in the Beaver-Republican Valley area is 60 percent complete. In southwestern Nebraska the infestations are developing rapidly. Heavy mortality of nymphs hatching in worked fields in the Panhandle area has been observed in several instances.

North Dakota. (May 12-18): Hatching of M. mexicanus and M. bivittatus was general throughout the southern counties of the State and in more favorable locations in the northeastern counties. Nymphs of M. mexicanus were reported in the northwest corner of the State, in Divide County, on May 15. Predatorization in the northwestern counties of the State is very evident, with samples showing 4 or 5 pods destroyed by beetle or ground beetles. In some fields populations have been reduced as much as 60 percent. Throughout the north-central portion of the State, hatching has been delayed by rains and low temperatures. The majority of the M. mexicanus eggs in this area are in the milk stage, and a general hatch is predicted around May 25. (May 19-25): Cool weather, with scattered rains over most of the eastern portion of the State during the week, permitted only very light hatching in the more favorable areas. No hatching was observed in the northern tier of counties and most of the M. mexicanus eggs in these counties are still in the



coagulated and eye-spot stage. M. mexicanus and M. bivittatus were hatching in both fields and marginal areas in the southeastern half of the State, while in the extreme southern counties, the hatch has been in progress for 2 weeks and the above-mentioned species are in the first and second instars, while M. confusus is in the second and third stage. The hatch in the southern counties is estimated to be less than 25 percent complete. Populations range from 1 to 10 per square yard in the fields and 1 to 50 nymphs per square yard along the margins and roadsides. It is expected that the hatch in this area will be complete by June 10. In the northwestern portion of the State egg development up until May 22 was greatly retarded by cool, rainy weather; however, during the last few days temperatures have risen well into the eighties and eggs are beginning to hatch throughout the area. About a 60 percent hatch of M. bivittatus and 20 percent hatch of M. mexicanus has occurred. Predators, namely ground beetles, blister beetles, bee flies, and wireworms, have been quite active and have destroyed an estimated 25 percent of the eggs in some parts of this area. In the southwestern portion of the State, in Oliver, Mercer, Sioux, and Grant Counties, approximately 1 percent of the grasshoppers have hatched. Most of M. bivittatus and M. differentialis eggs are expected to hatch within a week, whereas M. mexicanus probably will require an additional week before hatching. For the State as a whole it is estimated that the hatch is less than 10 percent complete.

South Dakota. (May 12-18): M. bivittatus was hatching generally on May 16 in Beadle County and the areas southward. Northward the weather has been too cold to permit an extensive hatch. M. confucius is in the second and third instars and is now the dominant, nymphal species already hatched; however, M. differentialis forms about 70 percent of the total infestation on all field margins. Differentialis is expected to begin hatching along the southeastern corner of the State between May 25 and June 1. In this area M. confucius is 100 percent hatched and M. bivittatus 25 percent hatched. M. mexicanus is not present in any numbers. The total hatch in southeastern South Dakota is not over 15 percent along roadsides and field margins. Nymphal populations in the heaviest marginal infestations average from 50 to 100 per square yard. In the western portion of the State development, as well as hatch, has been held back by inclement weather. M. mexicanus and M. bivittatus are approximately 98 percent in the first instar and 2 percent in the second. Infestations are scattered and confined largely to alfalfa fields and margins, with M. mexicanus making up about 90 percent of the populations. (May 19-25): Cool and cloudy weather prevailed over the eastern part of the State throughout most of the past week and apparently retarded grasshopper development in this area. Very little damage to crops is noticeable. Most of M. mexicanus are in the first instar with M. bivittatus developing rapidly. -

Montana. (May 12-18): A light hatch of M. mexicanus was reported in Hill and Liberty Counties on May 15. Cool weather, however, has kept soil temperatures down and confined hatching for the most part to roadsides and field margins. A 30 percent hatch also was reported May 16 at Fort

Benton, in Chouteau County. Egg development on the whole in the northern portion of the State has advanced well into the segmentation stage. Cool weather has retarded the general hatch and with the alternate cool and moderately warm days, spasmodic hatching may occur over a 30-day period. No hatch is reported in Phillips, Blaine, Wibaux, Fallon, Carter, Roosevelt, Dawson, Richland, or McCone Counties. Hatching began in Fergus County on May 14 and was becoming general by May 18. (May 19-25): On May 23 a general hatch of M. mexicanus was taking place in Hill County, the hatch ranging from 5- to 90-percent complete, depending on soil conditions. In one area north of Gildford where a 90-percent hatch occurred, marginal damage amounting to 1 rod had occurred in some wheatfields. Where hoppers had hatched in the fields, 50 percent plant damage had occurred in wheat planted in the spring plowing. Grasshopper concentrations of 1,000 per square yard along marginal lands, 150 per square yard in stubble, and 75 per square yard in the fields were present. A 90-percent hatch of M. mexicanus had occurred in Fergus County by the close of the week and nymphs were beginning to spread from field margins. Fifty-percent damage had occurred 1 to 4 rods into spring wheat and scattered fields. Concentrations up to 10,000 per square yard were present along margins of fields but this condition was not uniform. Populations of from 25 to 250 per square yard were present in scattered fields of spring wheat but no infestations were present in winter wheat. A 50-percent hatch was reported from Portage to Fort Benton and eastward in Chouteau County, with populations of 75 per square yard confined mostly to field margins. The hatch from Fort Benton north to Chester ranges from 80- to 100-percent complete, with populations of 50 to 500 per square yard in field margins and with marginal damage evident in the southeastern part of Liberty County. Hoppers in this area have moved 6 rods into winter wheat.

Wyoming. (May 12-18): Observations in southeastern Wyoming indicate that infestations in Laramie County have been light and scattered, with a hatch of about 5 percent and that in Goshen County infestations are confined largely to alfalfa fields, where populations average about 45 per square yard. The general hatch of M. mexicanus was under way this week, after being delayed by inclement weather. Mexicanus represented about 90 percent of the grasshoppers present. Infestations in the Black Hills area of Wyoming are scattered and confined to alfalfa fields and margins. In Crook County very little hatch has occurred and development has been retarded by weather conditions. (May 19-25): Intermittent warm and cool weather this week prevented a rapid hatch. Heaviest infestations observed to date are in Sheridan County, with the hatch of M. bivittatus estimated to be about 50 percent complete. Populations in Goshen, Platte, Laramie, Weston, Campbell, and Crook Counties are light. Infestations in Goshen and Laramie Counties are still confined principally to alfalfa fields, with M. mexicanus the dominant species present. The hatch is probably from 75 to 85 percent complete in these 2 counties and 50 percent complete in Crook and Weston Counties. No crop damage has been reported to date.



Minnesota. (May 12-18): Examinations reveal that very little reduction in grasshopper populations can be anticipated from egg predatorization during the winter. Reductions from this source, it is believed, will not be greater than 10 percent. Species considered to be M. bivittatus and M. packardii have hatched in many sections of the State; few M. mexicanus eggs have hatched and hatching of M. differentialis is not expected to occur until the last week of May. (May 19-25): The hatch of M. mexicanus and M. bivittatus was general during the week throughout the northwestern portion of the State. In the counties of Marshall, Polk, Norman, and Clay, in western Minnesota, there was little increase in hopper populations during the last week, because of the cold and rainy weather. Nymphs were present from Crookston to Moorehead in light, sandy soil, or dry fields with thin vegetation, with populations ranging from 1 to 10 per square yard in the fields and margins. Egg predators have reduced eggs from 20 to 25 percent in Pine and south St. Louis Counties. The infestation in the western tier of counties in the southwestern portion of the State is general, with populations of 30 to 50 M. bivittatus per square yard fairly common. Hatch of M. bivittatus is about 50 percent complete, with 95 percent of the nymphs in the first instar. M. differentialis is expected to begin hatching within a few days.

Iowa. C. J. Drake (May 21): The two-striped grasshopper (M. bivittatus) and the lesser migratory grasshopper (M. mexicanus) started hatching at Ames on May 13. Survey in western Iowa from May 13 to 16 showed that about 10 percent of the eggs had hatched. Cool weather and heavy growth of vegetation are delaying hatching. Heavy to moderately heavy populations occur two to three counties deep along the Missouri River from Pottawattamie to the northern part of Iowa.

B. M. Gaddis and assistants (May 12-18): M. bivittatus and M. mexicanus were reported beginning to hatch in northwestern Iowa on May 15. The hatch appeared to be general along the Missouri Valley from the mouth of the Platte River northward. (May 19-25): M. bivittatus was hatching rapidly during the last week in the western and northwestern section of the State, with populations ranging from 20 to 150 per square yard and 90 percent in the first instar.

Missouri. L. Haseman (May 21): Young 'hoppers observed beginning to hatch in some areas in southern Missouri. In central and northern Missouri, where little trouble is expected, hatching has not been observed.

North Dakota. J. A. Munro (May 23): Hatching has barely started in the Fargo area, M. bivittatus and M. mexicanus being most prevalent. Some hatching observed in the sandhills area of southeastern North Dakota a week ago. Less than 1 percent of the eggs in a field near Langdon were hatched, M. mexicanus predominating. In 20 square-foot samples of soil taken from various points in a field, 28 egg pods of M. mexicanus were found. Only 2 of the samples did not have egg pods.

Wisconsin. E. L. Chambers (June 1): First report of hatching of M. bivittatus in Chippewa County on May 28, about 2 weeks later than normal. Observed in the first, second, and third instars.

Michigan. B. M. Gaddis and assistants (May 19-25): Hatching of M. mexicanus occurred in the infested areas of central Michigan during the week.

Oklahoma. C. F. Stiles (May 22): Infestation apparently very spotted over the western side of the State, with local outbreaks. The dominant species are Aulocara ellioti, M. differentialis, M. bivittatus, and M. packardii.

B. M. Gaddis and assistants (May 19-25): In Cimarron and Texas Counties, in the Panhandle of Oklahoma, idle and waste land appear to be most heavily infested, populations averaging about 30 per square yard. In weedy wheat, 5 percent leaf damage has occurred in thin stands, with less in heavy stands. Clean wheat is practically free from 'hoppers. The hatch is practically complete in some areas but apparently just beginning in others. Adverse weather the last 2 weeks has delayed grasshopper development. Infestations which were first thought to be quite spotted are becoming more and more general as the late hatch progresses.

Texas. (May 12-18): In the Texas Panhandle Counties of Dallam, Hartley, Moore, and Sherman, M. mexicanus is the dominant species; however some A. ellioti and M. packardii are present. Nymphs of these three species are to be found in all instars from the first to the fifth, with the largest percentage in the first and second instars.

(May 19-25): M. mexicanus heavily infests the counties of Dallam, Hartley, and Sherman, making up about 60 percent of the population. Nymphal concentrations range from 5 to 60 per square yard in idle lands, along roadsides, and in draws in rangeland areas. In the crop-hopper area of the eastern Texas Panhandle, nymphs and adults number from 30 to 50 per square yard along field margins of cotton and other row crops and in pasture land adjacent to crop land. The dominant species present are A. turnbullii, M. packardii, and A. ellioti. In some areas of Stonewall and Haskell Counties, considerable damage has been done to young cotton plants. A. ellioti and M. confusus were observed mating in Haskell County.

A. J. Chapman (May 25): Noted in unusual numbers on the range land in Presidio County.



MORMON CRICKET (Anabrus simplex Hald.)

Montana. B. M. Gaddis and assistants (May 5-11): Crickets began to hatch in Big Horn County about the 15th of March. The hatch is now complete in all areas, with the exception of the Pryor and Big Horn Mountains. It is believed that there will be approximately 1,500,000 acres of heavily infested lands in Big Horn County this season. Crickets were reported hatching in Chouteau County the first part of this week. Probably some 65,000 to 70,000 acres will be heavily infested in Chouteau County. The first hatching of crickets was reported in Sanders County on March 2 and crickets are now in the third to fifth instars. About 150,000 acres of land are moderately and heavily infested in the county. In Yellowstone County, crickets are now in the second to fourth instars; they were reported to have commenced hatching about March 28. About 100,000 acres of lands are heavily or moderately infested. In Carbon County 32,000 acres are estimated to be infested. In Lake County it is expected that approximately 6,000 acres will be moderately or heavily infested. About 12,000 acres of heavily to moderately infested lands are located in the southern part of Phillips County in the vicinity of Landusky. It was thought that Sweet Grass County had been entirely cleaned of crickets; however, it is now reported that an infestation has appeared this spring in an area where there were no crickets last year. Fergus, Judith Basin, Stillwater, Golden Valley, and Musselshell Counties are believed to be almost free of crickets. It appears that in areas in Montana where large numbers of eggs were found last fall, the infestation at present does not seem to be very heavy. Examples of this are the Camas Prairie area of Sanders County and the south Hardin area in Big Horn County. On the other hand, places that apparently had no crickets last year are showing heavy infestations. (May 19-25): Larger numbers of Mormon crickets are appearing and considerable migration is occurring in Sanders County. The infestations in Yellowstone County appear to be scattered, with populations light. Very few migrations have been noticed in Big Horn County.

Idaho. (May 5-11): Cricket populations in Payette County are somewhat below anticipations. In some portions of Gem County the hatch has not been large, ranging from 25 to 80 percent. In other parts of the county large populations were present just prior to heavy spring rains, but some bands disappeared after the rains. Large cricket populations are present in some areas of Washington County. Cricket populations make the situation in the Midvale area at present especially acute. Migrations from the lower Crane area are now taking place. Crickets are not present in Twin Falls County in as large numbers as was anticipated by the fall survey. (May 19-25): Adults were reported in the western part of the State, in Washington County, on May 16. In the eastern part, in Clark and Fremont Counties, the hatch is now complete. Adult crickets were reported in Madison County on May 24.

Wyoming. (May 5-11): Crickets in most areas are now in the second and third instars; however, in lower elevations in Hot Springs County some crickets were observed in the fourth and fifth instars. An extensive

infestation exists in Crook County which, from the standpoint of potential crop damage, is more severe than in any other county in the State. The hatch is practically complete at this time and most crickets are in the second instar. The infestation in the Owl Creek Mountains of Hot Springs County is extensive and, though population counts are variable, the infestation as a whole may be classed as moderate. Most infestations now are from 1 to 2 miles from crop lands. Very light infestations exist over most of Sheridan County and crickets in the lower areas are now in the second and third instars. (May 19-25): Adult crickets reported at the lower elevations in Hot Springs County and definite migrations are occurring there, but crickets have not reached crop lands.

Utah. (May 5-11): The cricket hatch has been very high, with few infertile or parasitized eggs. Numbers in various areas this spring correspond closely to what was expected from the fall adult and egg survey.

G. F. Knowlton and H. F. Thornley (May 11): Mormon cricket outbreak on Government Creek, in Tooele County. In the Government Canyon outbreaks in Utah County, and near Tintic, in Juab County, are largely in the third to sixth instars. Nymphs in the Hassell's Ranch area of Juab County outbreak are second to fifth instars. Crickets are moving to higher elevations in Juab and Tooele Counties.

Nevada. B. M. Gaddis and assistants (May 5-11): A general hatch has occurred on all egg beds below 7,000 feet in elevation. The bands of crickets are small, except in areas where little or no control work has been done previously. A certain amount of sterility and parasitization of eggs is present in the older infested districts. The largest infestations appear to be found east of Wells near Oasis, in Elko County. The remainder of Elko County, with the possible exception of the Deeth and Midas areas, is infested with smaller bands than usual. Heaviest infestations, it appears, will be present in Eureka County. Only small bands of crickets are present in the areas where control work was carried on last year at McDermitt. (May 19-25): Most crickets in Elko County are now in the sixth and seventh instars and in the adult stage. In Eureka County, third- to seventh-instar crickets are present.

Oregon. (May 5-11): Hatch in the lower elevations in the Pine and Eagle Valleys of Baker County is now complete. Crickets are just beginning to emerge from egg beds at the higher elevations. Definite migrations have been observed especially in the dusted areas. Populations range from 5 to 75 per square yard. In Gilliam County only occasional first-instar nymphs are found and it is apparent that the hatch is almost complete there. The hatch in Umatilla County is not yet complete, crickets ranging from the first instar to the fifth. To date only 3 bands of crickets have been located, with populations ranging from 5 to 30 per square yard. Mormon crickets and coulee crickets (Perenabrus scabricollis Thos.) in Wasco and Jefferson Counties ranged from first instar to adults on May 1. The hatch is complete, except at the higher elevations. In the unhatched areas all eggs appear to be viable. The infestation in the Warm Springs area in Wasco County is exceedingly heavy, with from 10



to 150 crickets per square yard. Migrations have not been definite at any time, as the weather conditions have not been favorable and vegetative growth has been good, tending to hold the crickets near the hatch beds. The general trend in Malheur County this week is the moving of crickets slowly back into the foothills from the canyons and lower areas. (May 19-25): Crickets at the lower elevations throughout the infested areas are in the adult stage and mating and oviposition is taking place in Wasco County. First-instar Mormon crickets reported at some of the higher elevations in Baker County.

Washington. (May 5-11): The cricket hatch in Franklin County is now complete, with crickets ranging from fourth to sixth instar and from 5 to 50 per square yard. The infestation is of about the same extent as in 1939. Crickets in Klickitat County range from the first instar to adults and from 5 to 50 per square yard in the canyons. Hatch is practically complete. (May 12-18): In Klickitat County adults first were observed on May 5, crickets on that date ranging from first instar to adult stage. The hatch is not yet complete. (May 19-25): Approximately 95 percent of the crickets in Franklin County are in the adult stage, with the remainder in sixth and seventh instars. Populations range from 16 to 38 per square yard. Migrations are occurring only in the early hours of the morning.

South Dakota. (May 5-11): First-instar Mormon cricket nymphs at the rate of 1 per square yard reported present along a field road 1 mile west of Lyman, in Lyman County. (May 19-25): The infestation in Todd and Mellette Counties is reported to be light and scattered. Fourth-instar crickets reported in Jones County. In an area located 5 miles south of Draper, 50 crickets per square yard were reported in a band 1/2 mile wide by 2 1/2 miles long.

Nebraska. (May 19-25): Mormon crickets reported in the following counties: Sioux, Scottsbluff, Banner, Kimball, Cheyenne, Deuel, Garden, and Morrill.

#### CUTWORMS (Noctuidae)

New York. N. Y. State Coll. Agr. News Letter (May 13): Spotted cutworms (Graphiphora c-nigrum L.) numerous in a strawberry planting of 1/2 acre in Suffolk County, eastern New York. Nearly one-quarter of the plants defoliated.

Delaware. L. A. Stearns (May 21): Recently set tomato plants damaged at Camden, and tomato and pepper plants at Bridgeville.

South Carolina. F. F. Bondy and C. F. Rainwater (May 10): Larvae, presumably Agrotis vetusta Walk., very numerous, and about 40 acres of cotton destroyed near Sumter, Sumter County, on May 8. (Det. by C. Heinrich.) (May 11): A field of cotton in Florence County found infested on May 8. This field consisted of 40 to 50 acres and the damage was so severe that the cotton had to be planted over.

C. F. Rainwater (May 17): Cutworms, A. ypsilon, found severely injuring seedling cotton on the Experiment station farm at Florence on May 15. They are completely ruining the stand of cotton in the cover-crop test, where Austrian peas were planted in the fall of 1939 and turned under this spring. Very numerous in this particular field, but just across a field road, where no winter cover crop was planted, there is no sign of injury. (Det. by C. Heinrich.)

Mississippi. C. Lyle and assistants (May 25): Reported as serious pests in vegetable and flower gardens in the northeastern part of the State. A number of requests for control measures reported in the southeastern part of Mississippi.

Tennessee. L. B. Scott (May 23): Moderate damage to tobacco, cabbage, and tomatoes in north-central Tennessee, although abundance is less than normal.

Texas. R. E. McDonald (April 29): In the river-bottom section of Starr County, cutworms and other insects have inflicted severe damage in many cotton-fields.

Missouri. L. Haseman (May 21): A number of complaints received from different parts of the State since the middle of May. Some garden plants at Columbia cut off recently, but infestation in Missouri apparently not so severe as usual.

Utah. G. F. Knowlton (May 10): Army cutworms (Chorizagrotis auxiliaris Grote) are defoliating range plants, shadscale and greasewood, over 200 acres west of Ephraim. (May 17): Reports of injury to gardens, alfalfa, and wheat received from northern Utah throughout the month; serious damage reported.

#### PALE WESTERN CUTWORM (Agrotis orthogonia Morr.)

General. H. H. Walkden (May 25): Large acreage of wheat and spring barley destroyed by the pale western cutworm (Agrotis orthogonia Morr.) in western Kansas during April and May. As no barley is grown in New Mexico and the Texas Panhandle, damage there was limited to wheat.

#### VARIEGATED CUTWORM (Peridroma margaritosa Haw.)

California. S. Lockwood (May 21): Considerable damage done to purple vetch in the Half Moon Bay area of San Mateo County. Reports received to the effect that the infestation extends over approximately 1,000 acres.

#### AN ARMYWORM (Prodenia praefica Grote)

California. A. E. Michelbacher (May 22): Collected in all the alfalfa fields surveyed in the San Joaquin Valley. Up to 12 collected per 100 sweeps. Possible that it may occur in destructive numbers.



ARMYWORM (Cirphis unipuncta Haw.)

Maine. J. H. Hawkins (May): First specimens taken on May 16 at Orono.

Mississippi. C. Lyle and assistants (May 25): Larvae collected from oatfields in Leflore and Sunflower Counties the last week in April. No serious injury caused.

Oklahoma. C. F. Stiles (May 22): Reported from Grady, Kingfisher, Logan, and Pottawatomie Counties during the last 10 days. Control operations under way in Grady County for 2 weeks with excellent results. Many larvae have reached maturity and are pupating, so no serious damage is expected.

MAY BEETLES (Phyllophaga spp.)

Maine. J. H. Hawkins (May 16): Flight at South Paris is apparently the heavy one of the 3-year cycle.

Vermont. H. L. Bailey (May 23): First adult noticed on May 15 about lights at Montpelier, Washington County, central Vermont.

Massachusetts. A. I. Bourne (May 24): Adults reported as extremely abundant under sod in golf courses. Emergence had not taken place but they were ready for emergence and flight on the first warm night.

New York. N. Y. State Coll. Agr. News Letter (May 6): Big flight expected in many parts of New York. Counts of beetles in the soil have shown as many as 100,000 per acre in some areas.

Pennsylvania. H. E. Hodgkiss (May 25): Adults of P. fusca Froel. were flying at State College on the evenings of May 6 and 7. Emergence general in the State.

Georgia. T. L. Bissell (May 8): Two small pecan trees at Griffin have been fed on by P. hirticula Knoch for several nights, the beetles stripping the new leaves. (May 11): Numerous beetles are coming to light traps at Experiment, central Georgia. P. hirticula has been found feeding on pecan.

Mississippi. C. Lyle (May 25): Injury to oak in Chickasaw County and to pecan trees in the northwestern part of the State. Specimens of P. bipartita Horn received from De Soto County early in May, with information that they were feeding on pecan trees.

Tennessee. G. M. Bentley (May 23): Heavy emergence in the vicinity of Memphis, Shelby County, on May 6.

Ohio. T. H. Parks (May 26): Reported as cutting off oak leaves and devouring foliage of trees in Madison County, 25 miles west of Columbus. Specimens brought in from Fairfield County, with report that they were defoliating an acre of raspberries, were P. fervida F., P. fraterna Harr. and P. hirticula. (Det. by C. R. Neiswander.)

Indiana. L. F. Steiner (May 2): Unusually abundant in Vincennes during the last few days.

Illinois. A. F. Satterthwait (May): P. implicita Horn was taken in Japanese beetle traps at Urbana-Champaign on May 13. It was the first May beetle collected this year.

Kentucky. W. A. Price (May 25): Slight stripping of pin oaks caused on some farms in the Kentucky Inner Bluegrass Region early in May. Cold nights prevented heavy flights during the critical period, so damage was light.

Michigan. R. Hutson (May 21): Two-year-old white grubs reported in several localities in southern Michigan. Specimens taken at Leslie proved to be P. fusca.

Wisconsin. C. L. Fluke (May 20): White grubs reported as damaging lawns in the eastern and southern parts of the State.

Iowa. H. E. Jaques (May): White grubs found in southern and western counties of Iowa.

Missouri. L. Haseman (May 21): Flights of two or three different species common throughout central Missouri. Not so abundant as in some years.

Nebraska. M. H. Swenk (May 17): Inquiry as to control of white grubs, found feeding on the roots of strawberry plants, received from Sarpy County on April 29.

Texas. P. A. Glick (May 20): Adults of P. lanceolata Say found doing considerable damage to a field of cotton about 15 miles north of Waco, McLennan County. The grower says that about 50 percent of his cotton has been killed. He estimated that there are about 3 beetles per linear foot of cotton row. (Det. by E. A. Chapin.)

Utah. G. F. Knowlton (May 25): Brown adults are now in flight. Grubs damage potato each year north and east of Panguitch.

#### GREEN JUNE BEETLE (Cotinis nitida L.)

Kentucky and Tennessee. L. B. Scott (May 23): Unusually scarce in the Clarksville area of north-central Tennessee, and only slightly less so in the vicinity of Lexington, Ky. Infestations confined to small areas of very rich soil in Tennessee, only an occasional grub being found in tobacco plant beds. Plant beds in Kentucky lightly infested.

Georgia. T. L. Bissell (May 4): On May 2 a severe case of injury to a lawn in Griffin, central Georgia, by grubs was observed. Bermuda grass was dying, but weeds not harmed. Several grubs found at depth of 6 inches. On the same day damage was reported from Fort Gaines, southwestern Georgia, doubtless caused by the same insect.



ASIATIC GARDEN BEETLE (Autoserica castanea Arrow)

North Carolina. I. M. Hawley (May 17): Specimens collected at Biltmore on May 7. (Det. by W. H. Anderson.)

JAPANESE BEETLE (Popillia japonica Newm.)

Connecticut. J. P. Johnson (May 20): Grubs left hibernation quarters about May 10-12, moving into the upper inch of soil to resume feeding. Very abundant in many cities and towns.

New Jersey. E. Kostal (May 7): Larvae moderately abundant in the upper layer of sod and garden land at Morganville, Monmouth County; not so much lawn damage as usual.

WIREWORMS (Elateridae)

Maine. J. H. Hawkins (May 6): No crops planted in the vicinity of Holden, but many wireworms, Agriotes mancus Say, were present in sod of grass-land examined.

Connecticut. A.W. Morrill, Jr. (May 21): Emergence of Limonijs agonus Say in moderate numbers noted. Emergence started at the usual time, early in May, but not in numbers usually found at this time of year.

New York. N. Y. State Coll. Agr. News Letter (May 20): Adults, probably the eastern field wireworm, noticed in large numbers in a field being sown to oats in western New York. None found in adjoining field of rye on May 13. In Monroe County beetles have been observed in rather large numbers this week whenever the temperature rose. (May 27): Damage is becoming more and more severe in Richmond County, eastern New York. Beets, lettuce, cabbage, and cauliflower infested. One bed of romaine will have to be plowed under, owing to damage.

South Carolina. F. F. Bondy and C. F. Rainwater (May 18): Infestation reported on the Experiment Station Farm in Florence County. A cover crop was turned under prior to planting.

Louisiana. L. L. Neveu (May 22): Specimens of click beetles found on flax.

Iowa. H. E. Jaques (May): Infestations found generally throughout Iowa, particularly in the western and southern parts.

Nebraska. M. H. Swenk (May 17): Reported as infesting a garden on a creek bottom in Keyapaha County on April 24.

Oklahoma. F.A. Fenton (May 24): Damage to corn reported from Tecumseh.

North Dakota. J. A. Munro (May 23): Recently planted potato field examined today near Saint Thomas, Pembina County, and 50 percent of the seed pieces were being fed on by wireworms. The prairie grain wireworm (Ludius aereiennsis Kby.) predominated, one other unidentified species

being present in small numbers. Field had been in summer fallow the previous year. (June 1): A few fields of wheat in the vicinity of Finley, Steele County, observed to have been practically destroyed by larvae of L. aeneipennis.

Idaho. J. R. Douglass (May 18): Several complaints received of severe damage to beans and beets in Twin Falls County.

F. H. Shirck (May 21): On May 20 damage by L. californicus Mann. to seed of recently planted corn was noted at Parma, Canyon County. Some stands of sugar beets are also being injured. Adults active since the middle of April, and some flight by egg-bearing females noted as late as May 19, although indications are that practically all of the eggs have been laid.

Washington. M. C. Lane (May 17): On a farm at Walla Walla 4 acres of onions entirely destroyed by L. canus Lec.

K. E. Gibson (May 17): L. canus observed feeding on sugar beets and onions in experimental plots at Walla Walla.

California. M. W. Stone (May 12): Melanotus longulus Lec. found attacking lima beans on nonirrigated hillside plantings near Somis, Ventura County. About one out of every eight beans examined was infested. Severe damage by L. californicus observed in a number of fields. Sifting of bean rows in cover-crop plots near Somis showed an average of two and one-half per foot of row, or one per bean planted.

R. E. Campbell (May 25): L. californicus caused severe damage in Orange County in a 20-acre field of tomatoes, at least 20 percent of the plants being killed and 50 percent of those remaining damaged. Several wireworms found feeding in the root and stem of most of the plants, one plant having 27 in it. In several fields of lima beans near Gardena, Los Angeles County, this species attacked the sprouting beans and killed over 50 percent of the plants. These fields had been in alfalfa for 4 years.

#### WHITE-FRINGED BEETLE (Pantomorus leucoloma Boh.)

General. L. J. Padget (April 30): First damage of the season noticed on about April 26 in a garden near Drewry, Ala., where larvae were observed feeding on corn; and at this time heavy larval damage was reported on approximately 2 acres of corn at Glendale, Fla. No other reports received.

#### A BLISTER BEETLE (Pomphopoea aenea Say)

Tennessee. G. M. Bentley (May 8): Specimens of blister beetles, which occur each spring in large quantities on ironwood, found 1,600 feet above sea level in the Great Smoky Mountains National Park, in the Gatlinburg section. (Det. by H. S. Barber.)



Alabama. F. E. Guyton (April 22): Found in large numbers on a cherry-laurel tree at Auburn. Damage light.

SAY'S STINKBUG (Chlorochroa sayi Stal)

Arizona. V. L. Wildermuth (May 23): A heavy outbreak was found in the upper Gila Valley, Graham County, on May 8. Attention first called to this bug, when they were observed in a migratory flight coming from the rapidly drying range of the foothills of the Graham Mountains into the developing grainfields of the irrigated valley. Several fields examined, and populations found extremely heavy. One 20-acre wheat-field contained from 4 to 6 bugs on every head, or many hundred per square yard. It is estimated that damage to wheat and barley crops will be heavy. Area visited the following week, and it is reported that sweeping counts in the most heavily infested field showed an average of 59 bugs per net stroke. The largest number taken in a single stroke was 225, and 19 bugs were found on 1 wheat head. Migration began about May 1, and the bugs had apparently developed on filaree in the surrounding range area. Present infested area extends from Fort Thomas on the west to Solomonsville on the east, a distance of approximately 30 miles. Native ranchers report that a similar outbreak occurred 25 years ago. The present one is the heaviest and most widespread infestation of pentatomids ever recorded by anyone of the Tempe laboratory. Counts showed only  $1\frac{1}{2}$ -percent parasitization. These bugs constitute a serious threat to the alfalfa-seed and cotton crops in this valley, if normal development continues.

Utah. G. F. Knowlton (May 17): Collected on weed hosts in a number of localities in northern Utah.

C E R E A L   A N D   F O R A G E - C R O P   I N S E C T S

WHEAT AND OTHER SMALL GRAINS

CHINCH BUG (Blissus leucopterus Say)

Illinois. W. P. Flint (May 21): Flight from hibernating quarters to small grain has occurred. Since this flight the weather has been mostly very cool, with considerable rain, although not many bugs have been killed. Sufficient numbers remain to cause moderate to heavy infestations in some places, provided it is dry late in May and early in June. More abundant in oats than in wheat. Eggs being laid but no young bugs found.

Iowa. C. J. Drake (May 21): Winter mortality was highest in the northern parts of the infested areas and very low in the more heavily infested southern part of the State. A survey in March and during the first few days of April showed an average mortality of from 20 to 25 percent in southern Iowa and about twice as high in the extreme north. Migration from winter quarters to small grain interrupted a number of times by cool weather. At present migration is not complete, and considerable numbers have been flying on warm days during the last week, most of the

flights being in a somewhat northerly direction. A large field of corn in the southern part of Marshall County reported as infested with bugs which had settled there during the spring flight. Population averaged from 10 to 12 per cornstalk. (May 23): Surveys made during the last 2 days in Clarke, Polk, and Warren Counties. Infestation in small grain ranged from 2 to 4 bugs per square foot to as high as 25 or 30 in many oat- and barleyfields. Wheat generally more heavily infested, and counts ran from 15 to 75 or 100 per linear foot of grain in drill row. In some fields in the southern parts of Polk and Warren Counties, the population ran as high as 100 per stool of wheat. In 1 field in southwestern Warren County 8 percent of the barley had been destroyed by adults. Population in this field averaged between 15 and 20 bugs per plant. A number of oatfields in this part of the county showed damage of from 1 to 3 percent. Egg laying has just started. Migration not quite complete. Situation apparently very serious throughout a large part of southern Iowa, especially the southwestern part.

Missouri. L. Haseman (May 21): Bugs apparently have not all reached small grains throughout central and northern Missouri, as infested fields are rather spotted. In central Missouri oviposition has begun but apparently no eggs have hatched. The recent rainy spell was favorable to crops and held back bug activity.

Nebraska. M. H. Swenk (May 17): Inquiries as to the situation received late in April and early in May from Richardson to Douglas Counties, in southeastern Nebraska. A survey in May showed a heavy population in the small-grain fields in this area.

Kansas. H. B. Hungerford (May 20): Bugs have come out of winter quarters in considerable numbers in the vicinity of Lawrence.

Oklahoma. C. F. Stiles (April 30): A survey conducted last week throughout Tulsa, Wagoner, Mayes, Muskogee, Okfuskee, and Noble Counties, showed that the number of bugs per linear foot of drill row ranged from 0 in all land planted to oats to around 30 in a few fields of barley. Infestation heaviest in Muskogee and Okfuskee Counties. (May 22): Infestation throughout the State seems to be very spotted, and many fields of barley are seriously infested, whereas nearby fields of wheat and oats are practically free. Control measures necessary to prevent damage to corn and grain sorghums.

F. A. Fenton (May 24): First generation of nymphs is now developing in small grains, but the bugs have not started moving into cornfields.

#### BLACK GRAIN STEM SAWFLY (Trachelus tabidus F.)

West Virginia. E. J. Udine (May 23): Adults noted on wheat today at Kearneysville.

#### EUROPEAN WHEAT STEM SAWFLY (Cephus pygmaeus L.)

Pennsylvania. E. J. Udine (May 26): Adults are flying in abundance in wheat plots at the Carlisle laboratory.



WHEAT JOINTWORM (Harmolita tritici Fitch)

West Virginia. E. J. Udine (May 23): Abundant at Kearneysville. Eggs being laid on wheat today.

HESSIAN FLY (Phytophaga destructor Say)

Pennsylvania. E. J. Udine (May 6): Eggs and adults noted in the vicinity of Carlisle today. Oviposition very late this year.

CORN

CORN EAR WORM (Heliothis armigera Hbn.)

Georgia. T. L. Bissell (May 11): Two moths caught at a light in Experiment, central Georgia, on May 8 and 9. No larvae observed. (May 21): At Experiment two moths found on corn and a great many eggs, believed to be of this species, as well as one small larva.

Mississippi. G. L. Bond (May 25): Larvae have become numerous in the coastal counties during the last 10 days and are damaging corn by feeding in the bud.

Louisiana. L. L. Neveu (May 22): Abundant on flax.

Texas. F. L. Thomas (April 15): Most of the flax acreage in the State extends from the lower Rio Grande Valley north and east to Bexar and Wharton Counties. Reported that late-planted flax has been attacked in most of this area, in which 17,011 acres were planted in 1939. Approximately one-third of the seed pods destroyed.

R. W. Moreland, et al. (May 25): In examining 1,000 corn plants in bottom-land and upland fields in McLennan County, averages of 3 eggs and 21.2 injured plants were found per 100 plants. Eggs and injury slightly higher in upland fields.

Utah. G. F. Knowlton and D. L. Sargent (April 22): One moth taken in trap light at Cedar City tonight.

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

New York. N. Y. State Coll. Agr. News Letter (May 13): A field of stubble examined in western Suffolk County, on Long Island, on May 10 showed that about 33 percent had pupated. Pupation in Nassau County on May 9 averaged between 2 and 4 percent. On May 10 pupation in Columbia and Rensselaer Counties, in the Hudson Valley, was between 2 and 3 percent. Survey of 35 fields before beginning of plowing revealed a general average of 2,295 borers per acre. Average in sweet corn was 3,656 and in field corn 480 per acre. (May 20): Pupation in Nassau County was between 15 and 20 percent by May 15; and in Columbia County about 12 percent on May 17. (May 27): Pupation is approaching 30 percent in Columbia County and is approximately 50 percent in Nassau County.

New Jersey. C.A. Clark (May 23): Pupation had reached 51 percent in Burlington County on May 23. Moth emergence was found to be 4 percent. Field examinations made in the northwestern part of the county. Spring development considerably behind normal, being a week later than in 1939.

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

Mississippi. C. Lyle (May 25): Reported as attacking corn in Monroe County the last week in April.

SOUTHERN CORN ROOTWORM (Diabrotica duodecimpunctata F.)

Georgia. T. L. Bissell (May 10): Damage to corn beginning to show up at Experiment. The larvae are well grown.

Mississippi. C. Lyle (May 25): Injury to corn reported from Harrison County.

CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

Iowa. H. E. Jaques (May): Reported from Monona County, western Iowa, and from Wapello and Henry Counties, southeastern Iowa.

SHORT-TAILED CRICKET (Anurogryllus muticus Deg.)

South Carolina. W. C. Nettles (May 27): Severe injury to 3 acres of corn near Chester, in the central part of the State.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Idaho. F. H. Shirck (May 21): Noted at Parma in greater numbers than for several years. Damage moderate.

Utah. G. F. Knowlton and assistants (May): Injury to alfalfa has been occurring in scattering localities all during the month from northern Utah all the way to the south along the central part of the State.

California. A. E. Michelbacher (May 22): The number of larvae collected per 100 sweeps of an insect net in the infested part of the San Joaquin Valley on May 7 ranged from 0 to 167, and the number of adults from 0 to 362. On May 21 the larval count ranged from 0 to nearly 200, and the adult count from 3 to 432. Only in a rather small area south of Tracy is the adult-population density high. In this restricted region the population is the largest encountered since this investigation was started in 1932. Extremely scarce at Pleasanton on May 7 and on May 21 none were collected. In the region adjacent to San Francisco Bay on May 7 the larval count ranged from 8 to 196, and the adult count from 0 to 2. On May 21 the larval count ranged from 5 to 50 and the adult count from 1 to 3. Throughout the entire infested region the amount of parasitization by Bathyplectes curculionis Thoms., based on rearing from last-stage larvae collected in the field on May 7, was slightly in excess of 95 percent.



CLOVER LEAF WEEVIL (Hypera punctata F.)

Utah. G. F. Knowlton and F. C. Harmston (May 1): Eight acres of red clover at Honeyville seriously damaged, and an additional 8 acres damaged seriously in spots, some being completely bare. From 3 to 10 larvae present at the bases of many plants.

Washington. E. J. Newcomer (April 29): Larvae numerous in some alfalfa fields. The mild winter has probably resulted in less mortality than usual.

AN ALFALFA WEEVIL (Hypera brunneipennis Boh.)

General. H. T. Rainwater (May 15): Active scouting extended over suspected areas from early in February to about the first of May. The limits of the infestation, as determined by the 1939 survey, extended about 8 miles south of Yuma, Ariz., to the University of Arizona Experiment Station, extending west about 2 miles at two points, northeast of Yuma, about 1 mile in the vicinity of Winterhaven, in Imperial County, Calif. As a result of the 1940 survey, four new infestations were found—one in the North Gila Valley and one in the South Gila Valley, both in Yuma County, Ariz., and only a few miles from the original Yuma Valley infestation; one about  $1\frac{1}{2}$  miles north of Bard, in Imperial County, Calif., approximately 8 miles northeast of Yuma, Ariz.; and one in the University of Arizona Experimental Date Garden at Tempe, Ariz., about 210 miles east of the original infestation in Yuma Valley. (Det. by C.F.W. Muesebeck.)

CLOVER ROOT BORER (Hylastinus obscurus Marsham)

Idaho. J. R. Douglass (May 18): Reported by growers in Twin Falls County that stands of clover are being killed and that stands of first-year clover are being plowed out.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

California. A. E. Michelbacher (May 22): The population is increasing rapidly. On May 21 a large number that had just recently emerged were collected in the alfalfa fields in the San Joaquin Valley, the Pleasanton area, and the region adjacent to San Francisco Valley.

PEA APHID (Macrosiphum pisi Kltb.)

Kentucky. W. A. Price (May 25): Found on red clover and alfalfa for the first time late in April, but development was delayed by cold weather. No fungus disease found, such as occurred during the last 2 years.

Arizona. H. G. Johnston (May 1): Tremendous injury caused to alfalfa throughout the spring in the Salt River Valley. By early May many fields had been so severely injured that they were pastured rather than cut for hay. Parasitization was slight, and weather conditions favorable for the development of a large population.

Utah. G. F. Knowlton and F. C. Harmston (May): This insect has been very abundant on alfalfa throughout the month in northern and also the southwestern corner of the State.

Nevada. G. G. Schweis (May 20): Much damage to alfalfa in practically all of Western Nevada, being more severe than has been noticed for several years.

Washington. R. D. Eichmann (April 29): Only about 5 percent as many pea aphids as last year on alfalfa in the Gardena and Walla Walla areas. Drought last fall reduced the population materially.

C.F. Webster (May 22): Attack on vetch on May 13 in San Juan County. So heavy that the crop is being plowed under.

Oregon. K. W. Gray (May 20): Rains late in April and early in May materially reduced the population on Austrian winter peas and vetch in the Willamette Valley. They were more abundant than usual but are now down to normal. Rains and humidity favored fungus diseases, which killed the aphids.

#### PLANT BUGS (Hemiptera)

Utah. G. F. Knowlton (May 10): Nymphs of Lygus elisus Van D. and L. elisus hesperus Knight are appearing in alfalfa.

Arizona. W. A. Stevenson (May 11): The population of Lygus spp. in alfalfa in Pima County continues to be much heavier than in 1939, approximately 10 times as many being caught with the sweep net. During the week ended May 4, 1 alfalfa field showed a fairly heavy population of Adelphocoris superbus Uhl.

T. C. Barber (May 4): Chlorochroa sayi Stal and Euschistus impictiventris Stal are numerous for the season in Maricopa County.

#### THRIPS (Thysanoptera)

Utah. G. F. Knowlton (May 25): Abundant on alfalfa at New Harmony.

California. L. G. Jones (May 4): Alfalfa in the Antelope Valley severely damaged by Frankliniella occidentalis Perg. and F. moultoni Hood. Climatic conditions early in the spring were favorable for multiplication in grassland throughout the valley, and, as the vegetation dried out, they migrated to alfalfa, starting about March 10. By April 13, 75 percent of the alfalfa leaves were badly deformed and somewhat skeletonized.

#### VETCH

VETCH BRUCHID (Bruchus brachialis Fahraeus)

Oregon. L. P. Rockwood and M. M. Reeher (May 9): Abundant on April 12 under



and within 100 feet of an oak tree on the edge of a field of hairy vetch near Wilsonville, Clackamas County. Maximum temperature at Forest Grove was 79° F. Large numbers of weevils had been observed in the lichens on this tree in October 1939. Males greatly outnumbered the females on April 12. An abundance was swept within 100 yards of this tree on the few subsequent days when maximum air temperatures were 70° or above. Males continued to predominate in the sweepings, a ratio of 6:4 existing on May 6. There has been a large increase in population over 1939 in this locality, where hairy vetch is known to have been infested for at least 4 years.

#### GRASS

##### SOD WEBWORMS (Crambus spp.)

Ohio. T. H. Parks (May 25): Specimens received from Washington County, southern Ohio, on May 23, with the statement that they were damaging young corn.

Texas. R. K. Fletcher (May 17): Considerable damage done in a pasture in Travis County on May 13, our first record of such damage.

#### SUGARCANE

##### SUGARCANE BEETLE (Euethola rugiceps Lec.)

Georgia. T. L. Bissell (May 11): Beetles have been numerous in light traps at Experiment since May 7.

Mississippi. C. Lyle and assistants (May 25): Specimens received from Bolivar and Washington Counties on May 17, with the report that they were causing injury to corn. Injury to corn also reported from Harrison County.

Louisiana. J. W. Ingram and W. E. Haley (May 23): Very little fresh beetle injury can be found on sugarcane in southern Louisiana, indicating that injury is practically over for this season. Damage this year has been the lightest on record.

##### YELLOW SUGARCANE APHID (Sipha flava Forbes)

Louisiana. J. W. Ingram and L. J. Charpentier (May 23): Injury to sugarcane unusually noticeable during the last 30 days.

FRUIT INSECTS

EASTERN TENT CATERPILLAR (Malacosoma americana F.)

General. E. P. Felt (May 23): Becoming somewhat abundant in southwestern New England. Small groups of wild cherry defoliated.

Maine. F. H. Lathrop (May 6): Eggs were observed hatching in Monmouth, Kennebec County, on May 2 on apple and wild cherry. A few clusters in warm, sheltered places had hatched a few days before. At Orono, Penobscot County, hatching was observed today. Apparently more abundant than usual.

Vermont. H. L. Bailey (May 23): Moderately abundant about the State, but generally less plentiful than last year. Hatching later than normal. First tents noticed on May 6 in Washington County, central Vermont.

Massachusetts. A. I. Bourne (May 24): Found hatching approximately on the first few days of May, later than usual.

Rhode Island. A. E. Stone (May 29): Less numerous on the whole than in past years, but abundant in a few places.

New York. R. E. Horsey (May): Present on May 13 on ornamental Japanese quince at Rochester. Fairly numerous on cherry and crab apple in ornamental plantings.

E. P. Felt (May 23): Somewhat abundant in southeastern New York. Small groups of wild cherry have been defoliated.

N. Y. State Coll. Agr. News Letter (May): In eastern New York nests were numerous by May 13 and becoming conspicuous in western Suffolk County. Especially numerous in Rockland County by May 20. In Orange County by May 27 they were about  $1\frac{1}{2}$  inches long and more numerous than in 1939; and in Dutchess County they are more conspicuous than in recent years, particularly on hedgerow bushes. In western New York, in Niagara County, nests found up to 2 or 3 inches in diameter. Scarce in Orleans County. Just starting to show up in Monroe County. Hatching started on May 5 in Wayne County; now common in many orchards, the nests on wild cherry being 4 to 5 inches in diameter.

New Jersey. E. Kostal (May 7): Newly hatched larvae noted on apple and wild cherry at Morganville, Monmouth County, on May 1, 3 weeks later than usual. Relatively scarce and damage moderate.

M. D. Leonard (May 29): Many nests observed on hundreds of wild cherry trees in Bergen County. Considerable damage expected.

Pennsylvania. G. B. Slocum (May 24): Heavy infestation found on wild cherry and apple trees throughout eastern Pennsylvania, particularly in the Philadelphia area.



H. E. Hodgkiss (May 25): Normally abundant on apple over Pennsylvania. Eggs hatching and young webs forming in the southern counties on April 22, and elsewhere at the beginning of May.

Delaware. L. A. Stearns (May 6): Just appearing in New Castle County, with nests about 1 inch in size.

Maryland. E. N. Cory (May 6): Attacking trees in Howard, Prince Georges, and Montgomery Counties.

Virginia. C. O. Barc (May 20): Fairly abundant from April 21 to May 12 on wild cherry and plum in Henrico and Chesterfield Counties, as many as two and three nests being found in one tree. Those found on April 21 were nearly  $\frac{1}{2}$  inch in length.

Tennessee. G. M. Bentley (May 23): Found on May 1 on wild cherry and apple in eastern Tennessee; 50 percent of leaves eaten at one place.

#### A TENT CATERPILLAR (Malacosoma sp.)

Washington. F. W. Frasier (May 22): Reported as attacking apples, cherries, and other fruit trees on May 14. Attacks county wide and beginning to be serious.

#### THRIPS (Thysanoptera)

Arizona. H. G. Johnston (April 3): Apple crop in the Sedona area has been practically destroyed by Frankliniella occidentalis Perg. Many of the small peaches have been completely destroyed and others are being severely scarred. (Det. by F. Andre.)

Washington. L. G. Smith (May 22): Reported on May 15 as injuring young leaves. Poor set of fruit in many orchards due to blossom injury.

#### SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Wisconsin. E. L. Chambers (June 1): Little winter mortality on trees and shrubs in the limited infested areas of the State. Not reported in commercial orchard areas.

#### A LECANIUM SCALE (Locanium coryli L.)

Washington. E. P. Breakey (May 20): Attacking trees and shrubs, damage being serious and increasing over that of last year. Abundant in prune orchards in Clark County and in sour cherries near Kent, King County.

#### APPLE

#### CODLING MOTH (Carpocapsa pomonella L.)

New York. D. W. Hamilton (May 24): Overwintered larvae and pupae more numerous than usual in the Poughkeepsie area. About 40-percent

pupation occurred at Poughkeepsie by May 17, as compared to 20 percent at Germantown, and 13 percent at Kinderhook. No moths observed in emergence cages nor in bait traps. Development is about average.

Delaware. L. A. Stearns (May 23): Pupation amounted to approximately 75 percent on May 17; emergence of spring-brood moths began on May 15 and has continued regularly since that date; eggs now being laid.

Maryland. C. Graham (May 6): First emergence reported at Collogo Park.

Virginia. A. M. Woodside (May 22): First moths found in bait traps on May 15. Emergence of adults from May 18 to 21 very heavy.

Ohio. T. H. Parks (May 25): Regular emergence has been occurring since May 17, when first adults were taken in Lawrence County. First moth at Columbus trapped on May 20, but none caught in the following 5 days. About one-half of the overwintered cocoons contained pupae on May 16.

Indiana. L. F. Steiner (May 9): Emergence began in the insectary in Vincennes on May 7, but no moths have emerged in 4 screen cages located in 2 orchards, in which several thousand larvae were placed in the fall of 1939. Nine moths were taken in 4 different orchards from approximately 300 record traps on May 8. (May 16): Weather conditions since May 14 have permitted very little flight activity, although it is evident that a heavy population is building up. (May 23): Moth catches fell off today from the high of May 22, which was 2,420, owing to low temperatures last night and this morning. Estimated that 72 percent of the surviving larvae in emergence cages had emerged prior to today and that peak of activity is very close or has been reached. No larvae observed in the orchards, but eggs deposited by moths caged over foliage on May 13 hatched on May 21. (May 29): Fumigation of 10 trees on May 28 indicated that a large population is still present, at least three-fourths as large as a week ago. Very unfavorable conditions have prevailed since May 22. Daily rains and generally low temperatures have prevented egg laying. First-brood peak of egg deposition may have occurred last week, provided the weather continues unfavorable, but the present population can produce more eggs than that of a week ago if conditions become favorable in time. First wormy apples observed on May 27, although eggs were hatching early last week.

Kentucky. W. A. Price (May 25): Emergence began at Paducah on May 6, at Princeton on May 7, and at Lexington on May 19. Emergence in western Kentucky unusually heavy during second week in May. Eggs found at Paducah on May 10.

Illinois. W. P. Flint (May 21): Adults emerging throughout the southern two-thirds of the State. Severe damage anticipated, owing to low winter mortality.



Missouri. L. Haseman (May 21): Emergence in southern Missouri experimental stations began on May 6-8, and a week later in the northern part of the State. Some rather heavy catches were being made throughout the State prior to May 20. Oviposition not heavy, owing to general rains and a tendency toward cool weather.

Missouri and Kansas. H. Baker (May 21): Development is backward and proceeding slowly in northeastern Kansas and northwestern Missouri. Orchard examinations showed 8-percent pupation on April 19, 23 percent on April 29, 55 percent on May 9, and 81 percent on May 20. First moths caught in bait traps on May 13 but few since. No eggs found in an examination on May 20.

Washington. L. G. Smith and assistants (April 29): First pupae found about March 12 in the Yakima district, the season being a few days earlier than normal. First moths observed in orchards on April 17 and first taken in baits on April 19. (May 8): Adult emergence reported on May 3, starting early, two and four moths being caught in bait pots on April 22 and 23, respectively, in the Wenatchee district. No oviposition evident. Pupae observed beneath bark on some apple trees in Spokane County on May 4.

Oregon. B. G. Thompson (May 20): No eggs laid in the Willamette Valley up to May 18.

California. H. J. Ryan (May 21): Control measures carried on in Antelope Valley on apples and pears, the first work starting on April 11. Infestations in Persian walnuts showed a peak emergence about May 10. Sizes of young walnuts very uneven and many orchards have light crops. Eggs easily found, and a few larvae found entering nuts by May 18.

#### FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

New York. N. Y. State Coll. Agr. News Letter (May 27): In Orange County several heavy infestations were observed and throughout the lower Hudson Valley this pest is more widely distributed than in recent years. In western New York, in Niagara County, leaf rollers are developing up to  $\frac{1}{4}$  inch in length. In Monroe County they are fairly abundant in some orchards, and in Wayne County many larvae are in the second instar.

Indiana. L. F. Steiner (May 16): Light infestations observed in the Vincennes area in three treated and two untreated apple orchards, many of the larvae now being from 12 to 15 mm. in length. (May 29): More than normal amount of leaf rolling and feeding on fruit in local orchards this year. Larvae are nearly mature.

Illinois. W. P. Flint (May 21): Larvae now nearly full grown in southern Illinois and damaging raspberries and some flowering plants, particularly peonies, as well as orchards. In central Illinois the larvae will feed for at least another 3 weeks or more. Abundant on woodland trees and in all apple orchards. Heavy damage expected.

Michigan. R. Hutson (May 21): Hatched at South Haven on May 10.

Missouri. L. Haseman (May 21): Heaviest infestation since the turn of the century, being prevalent throughout practically all of the eastern half of the State. Injury is not restricted to fruit, forest, and shade trees, but roses, shrubs, peonies, garden vegetables, and other herbaceous plants are being attacked. Older larvae just about half grown, a large amount of young fruit being injured.

Utah. G. F. Knowlton (May 21): Seriously damaging apple foliage in an orchard at Cove on May 18.

PISTOL CASEBEARER (Colcophora malivorella Riley)

Pennsylvania. H. E. Hodgkiss (May 25): Feeding in apple buds on April 30. Some had started enlarging their cases.

Delaware. L. A. Stearns (May 21): Moderate infestation on apple in the vicinity of Camden and Wyoming.

Illinois. W. P. Flint (May 21): Covering a wider range than in 1939.

EYE-SPOTTED BUDMOTH (Spilonota ocellana D. & S.)

New York. N. Y. State Coll. Agr. News Letter (May 27): Unusually abundant in some eastern New York orchards. First noted entering buds in western New York, where they are numerous, on May 3 and 4.

Pennsylvania. H. E. Hodgkiss (May 25): Rather numerous in apple orchards on May 17 in Monroe County. Larvae were mature on May 22 in the southeastern counties.

GREEN FRUITWORM (Graptolitha antennata Walk.)

New York. N. Y. State Coll. Agr. News Letter (May 27): More abundant in apple orchards than last year in Rockland and Dutchess Counties. Active in Orange County but not abundant.

Pennsylvania. H. E. Hodgkiss (May 25): Larvae were taken on terminals of apple in Carbon County on May 16.

APHIDS (Aphididae)

Massachusetts. A. I. Bourne (May 24): Various species of apple aphids were hatching about April 23 to 25, which is considerably later than normal. Almost impossible to find any aphids in many orchards, and in no case was the infestation heavy.

New York. N. Y. State Coll. Agr. News Letter (May): Present in light to moderate numbers in the lower Hudson Valley, and considerably less



than last year. By the end of the month the rosy aphid (Anuraphis roseus Baker) seemed to be increasing in abundance in the Hudson Valley and also in western New York.

Pennsylvania. H. E. Hodgkiss (May 25): Apple aphids relatively scarce. Rosy aphid eggs began hatching on April 11 in Delaware County, south-eastern Pennsylvania, whereas eggs of the green apple aphid (Aphis pomi Deg.) and grain aphid (Rhopalosiphum prunifoliae Fitch) hatched on April 3. A count of nymphs on April 11 indicated that the rosy aphids comprised 8 percent of the infestation.

Delaware. L. A. Stearns (May 21): Rosy aphid infestation generally light throughout the State, except in apple orchards where complete control measures had been omitted.

Indiana. L. F. Steiner (May 9): Apple grain aphid is the only species noted on apple in southwestern Indiana and it is unusually scarce. (May 16): First colonies of rosy aphid seen on May 10 in the Vincennes area. (May 29): Rosy aphids are increasing rapidly and causing some stunting of fruit.

Kentucky. W. A. Price (May 28): Rosy aphid is becoming rather abundant in orchards at Lexington and Henderson.

L. F. Steiner (May 9): R. prunifoliae is unusually scarce on apple in northern Kentucky.

Wisconsin. C. L. Fluke (May 20): Apple grain aphid present in reduced numbers this spring, being less numerous than for several years.

Missouri. L. Haseman (May 21): Few signs of trouble on fruit trees.

Washington: L. G. Smith (May 22): Light infestation of rosy aphids in the Skagit Valley on May 10. Ashy-gray ladybeetle (Psyllobora tacdata Lec.) present.

#### APPLE REDEUG (Lygidea mondax Reut.)

New York. N. Y. State Coll. Agr. News Letter (May 27): First nymphs observed in Wayne County, western New York, on May 19. Some nymphs in second instar, and typical injury apparent on young foliage.

Pennsylvania. H. E. Hodgkiss (May 25): First instar observed on apple in northeastern counties on May 15 and 16.

#### EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts. A. I. Bourne (May 24): Found hatching about May 10. Infestation light, as compared with normal years. Quite heavy

infestation in some blocks or in isolated orchards.

New York. N. Y. State Coll. Agr. News Letter (May 20): Hatched on May 13 in Dutchess County. (May 27): Newly hatched mites scarce in two orchards that contained heavy egg infestations. Nymphs plentiful in several orchards in Rockland County. Observed hatching in Monroe, Wayne, and Niagara Counties from May 16 to 18.

Pennsylvania. H. E. Hodgkiss (May 25): Eggs very abundant on apple in central and southeastern counties, and in Erie County.

Michigan. R. Hutson (May 21): Infestations very spotty but sometimes severe in several localities.

Washington. Ortho News (April 29): Eggs found on apple leaves at Wapato on April 20. (May 8): Eggs found on Orcas Island on March 21.

### PEACH

#### ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

New York. D. W. Hamilton (May 24): Adults found daily at Poughkeepsie in bait traps in apple orchards at least 1 mile distant from peach trees.

Indiana. L. F. Steiner (May 2): No emergence observed in the Vincennes area.

Delaware. L. A. Stearns (May 23): Pupation approximately complete on May 17; emergence of spring-brood moths began on May 3 and was very heavy from May 7 to 14.

Maryland. C. Graham (May 6): First emergence at College Park occurred today.

Virginia. A. M. Woodside (May 22): Few twigs infested in Rockingham County.

Georgia. O. I. Snapp (May 14): Full-grown larvae of the first generation found in green peaches at Fort Valley, central Georgia, today.

T. L. Bissell (May 10): Numerous young peach tree shoots damaged at Griffin.

Mississippi. C. Lyle (May 25): Injury to peach twigs reported from the northeastern part of the State, and from Forrest, Leflore, and Holmes Counties.

Louisiana. C. O. Eddy (May 22): Second generation appearing in considerable numbers in central Louisiana.

Missouri. L. Haseman (May 21): Not abundant in east-central and southeastern Missouri.



Texas. R. K. Fletcher (May 17): Found on wild plum on May 8 in Nacogdoches County. (Det. by O. I. Snapp.)

PEACH TWIG BORER (Anarsia lineatella Zell.)

Missouri. L. Haseman (May 21): Reported as occurring in various parts of the State, with considerable injury in central Missouri.

Utah. G. F. Knowlton (May 7): Serious damage caused in several young peach orchards examined at Providence.

Washington. L. B. Wooten (May 8): First attack noted on May 3 on young peach trees in the Omak and Okanogan communities.

PEACH BORER (Conopia exitiosa Say)

Georgia. O. I. Snapp (May 16): Heavy infestation observed today in a peach orchard at Woodland, Talbot County, in central Georgia.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Maine. F. H. Lathrop (April 24): First emergence from experimental hibernation cages today at Monmouth, Kennebec County.

New York. N. Y. State Coll. Agr. News Letter (May 27): Apple and sweet cherry injured late in May in the lower Hudson Valley.

Pennsylvania. H. E. Hodgkiss (May 25): Emerging from hibernation in Adams County on May 5. Adults were abundant in peach orchards during the week of May 20 and were cutting newly formed apples.

Delaware. L. A. Stearns (May): Maximum activity of overwintered adults at Bridgeville on May 6.

Maryland. C. Graham (May 14): Emergence covered a long period at Salisbury, owing to inclement weather.

Virginia. A. M. Woodside (May 22): First adults captured in Crozet section on April 18. Infestation there is heavy, but it is light in Augusta and Rockingham Counties.

Georgia. T. L. Bissell (May 15): A grower jarred 150 curculios from 1,000 trees at Williamson, Pike County, on May 9. This is a low infestation.

O. I. Snapp (May 20): First full-grown larvae of the season emerged from peach drops at Fort Valley on May 10, 3 weeks later than last year. Infestation of peach drops lighter than usual, owing to cooler weather in April. Light second generation anticipated.

Correction.--On page 91 of the Insect Pest Survey Bulletin dated May 1, 1940, "First pairing of the season observed amongst 8 plum curculios from 14 trees" should read "First jarring (or bumping) yielded 8 curculios from 14 trees."

Mississippi. C. Lyle (May 25): Damage reported in the Meridian area. Wild plums heavily infested in Choctaw, Oktibbeha, and Webster Counties.

Louisiana. C. O. Eddy (May 22): Unusually severe in northern and central Louisiana.

Indiana. L. F. Steiner (May 16): Recovered in treated apple trees on May 16 in the Vincennes area.

Kentucky. W. A. Price (May 25): Egg laying began at Lexington on plums about May 18.

Missouri. L. Haseman (May 21): Since May 1 a great deal of damage has been done in central Missouri, especially in plums.

Nebraska. M. H. Swenk (May 17): Request for control measures on plum trees received from Richardson County on May 13.

RED-LEGGED FLEA BEETLE (*Dorocropis erythropus* Melsh.)

Maryland. C. Graham (May 9): Feeding on foliage and buds of 1- and 2-year-old peach trees at Smithsburg. Very destructive.

SHOT-HOLE BORER (*Scolytus rugulosus* Ratz.)

New York. N. Y. State Coll. Agr. News Letter (May 20): Several beetles observed feeding on foliage in a block of young apple trees at Suffern, Rockland County.

Ohio. T. H. Parks (May 25): Several requests for control measures received from peach growers in northern counties. (Det. by J. N. Knull.)

Oklahoma. C. F. Stiles (May 22): Seriously injuring peach trees in the vicinity of Guthrie.

CHERRY SCALE (*Aspidiotus forbesi* Johns.)

West Virginia. G. H. Geissler (April 27): Specimens collected on April 24 at Levels from peach. (Det. by H. Morrison.)

PEAR

PEAR PSYLLA (*Psylla pyricola* Foerst.)

New York. N. Y. State Coll. Agr. News Letter (May 13): First observed on May 8 in Ulster County, and very scarce in both Ulster and



Columbia Counties. In Orange County, nymphs are mostly in the first three instars, and quite a few newly laid eggs are being found. In western New York eggs are numerous in pear orchards in Erie, Orleans, and Wayne Counties.

Washington and Idaho. L. G. Smith (April 29): Located as far west as Davenport, Lincoln County, Wash., as far south as Thornton, Whitman County, Wash., and as far north as Sandpoint, Idaho, and Deer Park, Spokane County, Wash. Reported as active during the week of March 18, and as depositing eggs in the Spokane district of Washington.

PEAR MIDGE (Contarinia pyrivora Riley)

New York. N. Y. State Coll. Agr. News Letter (May 27): Out in large numbers in Ulster County on May 3, and working in the blossom buds on May 8. Observed ovipositing in western Suffolk County on May 6. and injury was apparent on young pears on May 27. Observed in numbers for the first time in Orleans County on May 9.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York. N. Y. State Coll. Agr. News Letter (May 6): Severely damaged a crop of pears in an orchard in Ulster County, probably ruining 85 percent of the opening buds.

Oregon. S. C. Jones (May 20): Larvae still present on prune and cherry foliage in the Umpqua Valley. Considerable damage has been done to foliage of prunes in Douglas County, the worst infestation since 1937.

CHERRY

CHERRY LEAF MINER (Profenusa canadensis Marlatt)

New York. D. W. Hamilton (May 24): Adults active on cherry trees on May 13 at Hudson, eastern New York. Emergence ceased on May 14.

PLUM

APHIDS (Aphididae)

Georgia. O. I. Snapp (April 29): Rusty plum aphid (Hysteroneura setariae Thos.) very abundant at Fort Valley. Considerable damage to plum crop where control measures were not used.

Mississippi. C. Lyle (May 25): Reports of injury to plum received from various parts of the State.

Texas. R. K. Fletcher (May 17): Attacking plum in Kimble County on May 11.

Utah. G. F. Knowlton and F. C. Harnston (May 11): Mealy plum aphid (Hyalopterus arundinis F.) was severely attacking a young prune orchard at Hanksville. Curling of plum leaves was noticed in an orchard at Centerville on May 17.

#### BRAMBLES

##### RASPBERRY FRUITWORM (Byturus unicolor Say)

New York. N. Y. State Coll. Agr. News Letter (May): Reported as appearing for first time on May 9 in Columbia County, on May 15 in Ulster County, and on May 22 at Geneva. Reported as causing less trouble in Orange County this year than last, and as being unusually numerous in Ulster County. On May 22 in Geneva they were beginning to injure the tender foliage and new blossom buds of raspberry. In western New York, in Ontario County, beetles appeared on May 23 and were damaging new buds of raspberry. First seen mating on May 24 in Wayne County.

Washington. L. G. Smith (May 15): Eggs first found on thimbleberry on May 9. Larvae reported as attacking all raspberry- and loganberry-type berries. Reported as being very plentiful and attacking loganberry plants in the Puyallup Valley on May 10.

B. J. Landis (May 21): The known distribution was extended in northwesterly and southeasterly directions, following a survey on wild thimbleberry. Adults found at Packwood, eastern Lewis County, on May 12, and eggs and adults found in Clallam and Grays Harbor Counties on May 18 and 19.

##### IMPORTED CURRANT WORM (Pteronidea ribesii Scop.)

Washington. L. G. Smith (April 29): Specimens received on March 20 from Vashon Island, where they were attacking currants.

##### CURRANT APHID (Capitophorus ribis L.)

New York. N. Y. State Coll. Agr. News Letter (May): Observed in small numbers on April 30 in Orange County, and on May 27 in Ulster County.

Utah. G. F. Knowlton and F. C. Harnston (May 6): Seriously damaging red currants at Logan.

##### FOUR-LINED PLANT BUG (Poecilocapsus lineatus F.)

New York. N. Y. State Coll. Agr. News Letter (May 27): Nymphs reported as damaging currants in Orange and Ulster Counties.

##### ROSE SCALE (Aulacaspis rosae Bouche)

Maryland. E. N. Cory (April 24): Found on raspberries at Smithsburg



Mississippi. M. L. Grimes (May 25): Light infestation on rose and young-berry reported in the Meridian area.

GRAPE

GRAPE LEAFHOPPERS (Erythroneura spp.)

Michigan. R. Hutson (May 21): Very numerous on May 8 on the borders of vineyards around Lawton.

Washington. L. G. Smith (April 29): Active in the Grandview-Granger district on February 23. Small number found on February 26 in leaves and debris of a vineyard 5 miles west of Wapato. Considerable damage reported by growers. (May 8): Reported as attacking grapes at Riverview near Pasco on May 6.

GRAPE SCALE (Aspidiotus uvae Comst.)

North Carolina. J. O. Rowell (April 18): Specimen of grape cane infested with scale received from Marion. (Det. by H. Morrison.)

PECAN

PECAN NUT CASEBEARER (Acrobasis caryae Grote)

Florida. S. O. Hill (May 16): First pupa of overwintered generation found in the field on April 19 in Jefferson County, northern Florida, and first empty pupal case found in the field on May 4. Peak of adult emergence from caged material in the insectary occurred on May 13.

FALL WEBWORM (Hyphantria cunea Drury)

Florida. S. O. Hill (May 16): Eggs present on pecan foliage in Jefferson County on April 15. First-generation larvae present on pecan foliage on April 30.

PHYLLOXERA (Phylloxera spp.)

Virginia. M. I. Fenwick (May 21): Specimens of pecan leaves containing galls formed by P. conica Shim. were submitted from Bowers Hill on May 21. (Det. by P. W. Mason.)

Mississippi. C. Lyle (May 25): Reports of serious injury to pecan trees by the pecan phylloxera (P. devastatrix Perg.) received from Holmes, Warren, and Yazoo Counties.

Texas. R. K. Fletcher (May 17): Serious damage reported in Collin County on May 11. Requests for control received from Brazoria County on May 10.

BLACK PECAN APHID (Melanocallis caryaefoliae Davis)

Georgia. T. L. Bissell (May 23): Abundant on pecan at Experiment, causing noticeable spotting of leaves.

CITRUS

CLOUDY-WINGED WHITEFLY (Dialeurodes citrifolii Morg.)

Florida. H. Spencer (April 29): Peak of egg laying of the first brood almost over on the east coast. Many larvae have settled on new growth of citrus.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Mississippi. C. Lyle and assistants (May 25): Numerous during the last 2 weeks in the southeastern part of the State. Heavy infestation observed early in May on Cape-jasmine.

Texas. Mrs. M. Wilkenfeld (February 28): Orange leaves from Goose Creek infested. (Det. by Louise M. Russell.)

GREEN CITRUS APHID (Aphis spiraccola Patch)

Florida. H. T. Fernald (May 20): Abundant on new growth of citrus and other plants at Winter Park.

J. R. Watson (May 22): Some complaints received from the east coast, but unusually scarce this year in the Citrus Belt as a whole.

MELON APHID (Aphis gossypii Glov.)

California. H. J. Ryan (May 21): Very little control necessary on citrus in Los Angeles County. Large numbers of predators and parasites were in evidence.

BLACK CITRUS APHID (Toxoptera aurantiae Fonsc.)

California. H. J. Ryan (May 21): Control measures in Los Angeles County not required to a great extent. Many predators and parasites are present.

CALIFORNIA RED SCALE (Aonidiella aurantii Mask.)

California. H. J. Ryan (May 21): Continued to emerge throughout April in Los Angeles County. Some control measures used on lemons.



COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Florida. H. T. Fernald (May 15): Abundant on citrus in a number of places in Winter Park. Control measures successful.

Arizona. C. D. Lebert (May 21): Numerous infestations observed on both ornamentals and citrus. Rodolia cardinalis Muls. is well established on several of the heavier infestations.

FLORIDA RED SCALE (Chrysomphalus aonidum L.)

Florida. W. Mathis (May 22): Strong winds on the east coast during latter half of April swept away one-third of the larvae which had just settled on orange and grapefruit leaves in an experimental plot.

ORANGE TORTRIX (Argyrotaenia citrana Fern.)

Florida. J. R. Watson (May 22): Sent in from St. Lucie County where the usual damage to young oranges was occurring.

A STAPHYLINID (Trigonopeltastes delta Forst.)

Florida. J. R. Watson (May 22): Common in various flowers and reported as doing serious damage to a few Persian limes near Homestead.

CITRUS THRIPS (Scirtothrips citri Moul.)

California. H. J. Ryan (May 21): Control treatments being applied in all parts of Los Angeles County by the middle of May.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. H. Spencer (April 23): Unpicked citrus fruit on the east coast is russetting severely from attacks.

M. R. Osburn (May 22): Increasing in the vicinity of Fort Pierce, on the east coast.

SIX-SPOTTED MITE (Tetranychus sexmaculatus Riley)

Florida. J. R. Watson (May 22): Prevalent in Florida, especially on grapefruit, doubtless owing to unusually dry weather. Heavy dropping of foliage in some sections.

H. Spencer (May 20): Infestations have increased on the east coast since the last week of April, especially in grapefruit plantings. Control measures successful.

CITRUS RED MITE (Paratetranychus citri McG.)

California. H. J. Ryan (May 21): Infestations built up during April in Los Angeles County.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Klug)

Mississippi. D. W. Grimes (May 25): Severe damage done to turnips in Holmes County.

Louisiana. C. O. Eddy (May 22): Adults have been appearing during the last month.

STRIPED CUCUMBER BEETLE (Diabrotica vittata F.)

New York. N. Y. State Coll. Agr. News Letter (May 20): Caught on May 17 in an orchard on Long Island.

Delaware. L. A. Stearns (May 17): Rather abundant on young cucumber and squash plants in Sussex County.

Virginia. A. M. Woodside (May 22): Very common near Timberville, in Rockingham County.

South Carolina. J. G. Watts (May): Relatively scarce at Blackville.

Mississippi. C. Lyle and assistants (May 25): Injury reported from the Meridian area, from Pearl River and Tate Counties, and from the southeastern part of the State.

Louisiana. L. D. Newsom (May 22): Found on volunteer squash.

Ohio. N. F. Howard (May 22): Very abundant on volunteer squash at Columbus and South Point. Apparently a severe winter has not reduced the numbers.

Missouri. L. Haseman (May 21): Few complaints received, but early cucurbits in central Missouri have already shown injury. Beetles not particularly abundant on fruit blossoms.

Texas. R. K. Fletcher (May 17): Found on watermelon on May 7 in Harris County.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata F.)

South Carolina. J. G. Watts (May): Damage at Blackville not extensive.

Mississippi. C. Lyle (May 25): Adults reported as feeding on cucumbers and cantaloups in the Meridian area.

Louisiana. L. L. Neveu (May 22): Adults abundant on flax.

Iowa. H. E. Jaques (May): Found in scattered localities in the southern half of the State.



FLEA BEETLES (*Halticinae*)

- Connecticut. A. W. Morrill, Jr. (May 21): Preliminary examinations of woods debris have indicated that the potato flea beetle (*Epitrix cucumeris* Harr.) has been able to survive the cold winter in moderately large numbers and that emergence will be normal.
- New York. N. Y. State Coll. Agr. News Letter (May 20): In western New York active on young cabbage plants in the field in Tompkins, Wayne, Niagara, and Erie Counties. (May 27): Damage to potatoes, beans, and early set tomatoes in western Suffolk, Columbia, and Nassau Counties, eastern New York.
- Mississippi. C. Lyle and assistants (May 25): Reported as attacking eggplant and tomatoes in the Meridian area, and in Carroll, Grenada, and Yalobusha Counties.
- North Dakota. J. A. Munro (May 23): Injury reported in the vicinity of Fargo. Very abundant last year, many plantings being ruined.
- Utah. G. F. Knowlton and F. C. Harmston (April 27): Flea beetles are severely damaging tomatoes, cabbage, and sweet corn in the southwestern corner of the State. Some small fields of sweet corn reported as having been entirely destroyed.
- Washington. L. G. Smith (April 29): Adult cabbage flea beetles were observed feeding on dock on March 19 in the Brady district of Grays Harbor County. (May 15): Found attacking potato plants on May 11 in the Puyallup Valley, and observed on volunteer plants on the same date in the vicinity of Snohomish. Beetles observed on May 8, attacking radish and related plants for the first time this year. (May 22): Reported as attacking tomato plants on May 16 around Shelton, in Mason County. First infestation observed this season. Truck crops reported as being attacked in the vicinity of Friday Harbor, in San Juan County, on May 13.

SEED-CORN MAGGOT (*Hylemya cilicrura* Rond.)

- Mississippi. C. Lyle (May 25): Specimens received from Attala County the last week in April, with information that they were injuring sprouting beans.
- Utah. G. F. Knowlton (May 8): Canning peas at Murray and Tremonton have been damaged.

SOUTHERN MOLE CRICKET (*Scapteriscus acletus* R. & H.)

- Florida. H. T. Fernald (April 24): Extremely abundant tonight at a light in Winter Park. (Det. by A. B. Gurney.)

GARDEN CENTIPEDE (*Scutigera immaculata* Newp.)

- Utah. G. F. Knowlton (May 13): Wheat prevented from growing on part of a farm at Farr West, Weber County. Damage observed in a home garden at Logan.

Oregon. H. E. Morrison (May 4): About 1/4 acre of spinach destroyed at Eugene.

POTATO AND TOMATO

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata* Say)

New York. M. D. Leonard (May 15): Overwintered adults reported as present for the first time in fair numbers in a field of newly sprouting potatoes at Roslyn, Long Island.

New York. N. Y. State Coll. Agr. News Letter (May 20): Beetles are making their appearance in Nassau County but are not laying eggs.

Delaware. L. A. Stearns (May): Present on young tomato plants on May 17; first eggs observed in Kent County on May 22.

Virginia. A. M. Woodside (May 22): Beetles are entering plantings, and a few eggs have been observed.

L. A. Hetrick (May 25): Many eggs on foliage of potato plants on May 20 in Mathews County. Only a few eggs had hatched.

South Carolina. F. Sherman et al (May 27): Scarcer than usual at Clemson. Very abundant and destructive on tomato plants at Bennettsville.

Mississippi. C. Lylo (May 25): Reports of serious injury to untreated potato and tomato plants received from localities scattered throughout the State.

Tennessee. G. M. Bentley (May 23): Noticed on May 4 in a garden near Nashville, Davidson County, but no damage done. Reported as attacking potatoes, tomatoes, and eggplant in counties in western Tennessee on May 14, damage being general and severe. On May 15 a few adults were noticed on potatoes in Humphreys County, but no damage was done.

Ohio. R. H. Nelson (May 23): Very abundant at South Point for the last 2 weeks or more.

Iowa. H. E. Jaques (May): Widely scattered throughout the southern half of the State.

Missouri. L. Haseman (May 21): Very heavy infestation appeared on early potatoes early in May throughout central Missouri. Oviposition heavy since the middle of the month, and some of the eggs are just beginning to hatch.

Utah. G. F. Knowlton and R. Whiting (May 10): Adults appeared earlier at Roy in northern Utah than during the previous season.

Washington. M. C. Lane (May 17): Adults have been laying eggs in great numbers on early potatoes in the Kittitas, Yakima, and Walla Walla Valleys.



A WEEVIL (Compsus auricephalus Say)

Mississippi. C. Lyle (May 25): Specimens received from Yazoo County early in May, with the information that they were found on potato.

CORN EAR WORM (Heliothis armigera Hbn.)

South Carolina. J. G. Watts (May): One first-instar larva and one egg found on tomatoes at Blackville in about three-fourth hour's search on May 16. Several moths seen flying in a field on May 20.

Georgia. T. L. Bissell (May 23): Larvae reported from Clarkston, DeKalb County, as starting to infest tomatoes from 1 to  $1\frac{1}{2}$  inches in diameter.

California. J. Wilcox (May 20): Nearly 100 percent of the tassels in a 20-acre field of sweet corn at Olive, Orange County, infested on May 6 with one or more larvae. On May 17 at El Toro, Orange County, the large larvae were migrating from the tassels in a 40-acre field of sweet corn and were damaging the young ears. A few tomatoes have been found infested.

TOMATO PINWORM (Keiferia lycopersicella Busck)

California. J. C. Elmore (May 20): Common on early tomatoes in eastern Orange County. Less common than usual in the San Pedro hills and more numerous than usual in the San Fernando area, both in Los Angeles County.

THRIPS (Thysanoptera)

North Dakota. J. A. Munro (May 23): Injury severe on foliage of potato plants growing in a greenhouse at Fargo. All plants injured.

ROOT GNATS (Sciaridae)

North Dakota. J. A. Munro (May 23): Larvae were present on practically all potato seed pieces examined in a field of potatoes and appeared to be causing injury.

A MEALYBUG (Pseudococcus sp.)

New York. R. W. Leiby (May 2): Reported as severely stunting tomatoes in several greenhouses at Rochester. (Det. by H. Morrison.)

TOMATO PSYLLID (Paratrioza cockerelli Sulc.)

Arizona. V. E. Romney (May 21): Numbers produced this season on Lycium andersonii in Arizona desert breeding areas are very low. Infestations in new territory owing to migrations from this source should be correspondingly low.

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

- New York. N. Y. State Coll. Agr. News Letter (May 27): Not very numerous in western Suffolk County.
- Virginia. A. M. Woodside (May 22): First beetle observed on May 17 at Staunton.
- Georgia. T. L. Bissell (May 20): Numerous on beans, and eggs were found today at Experiment, central Georgia.
- Mississippi. W. B. Hollingsworth (May 1): Earlier and more abundant at Hattiesburg than last year. Considerable damage noted today, almost a month earlier than any damage was noticed last year.
- C. Lyle and assistants (May 25): Light infestations reported from the Meridian area and from Yalobusha County.
- Louisiana. C. O. Eddy (May 22): A very strong first generation is developing in Bogalusa, Washington Parish.
- Tennessee. G. M. Bentley (May 23): Reported as damaging beans in Chester County, western Tennessee, on May 14.
- Ohio. R. H. Nelson (May 23): First beetle observed in a field at South Point on May 23. One egg mass present, indicating that emergence will probably be 10 days earlier than last year. Still relatively scarce, owing to cold weather.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

- Virginia. A. M. Woodside (May 22): Fairly common in and around Staunton. Some damage has occurred.
- South Carolina. F. Sherman et al. (May 27): Appears to be more numerous than usual at Clemson.
- Georgia. T. L. Bissell (May 10): Bean leaf beetle is peppering small bean plants severely at Experiment. (May 20): More abundant and injurious this year than usual on beans and on cowpeas at Experiment. Beans are beginning to blossom but are held back by dry weather and are not outgrowing the beetle feeding.
- H. O. Lund (May 25): Two acres of young bean plants severely injured at Winder. Severe damage to leaves has occurred, leaving only midribs remaining on most plants.
- Mississippi. C. Lyle and assistants. (May 25): Reported as numerous on beans and as causing injury in many localities throughout the State.
- Louisiana. C. O. Eddy (May 22): Abundant on beans and soybeans.



Tennessee. G. M. Bentley (May 23): Found on May 15 damaging bunch beans in a home garden at McEwen, Humphreys County; also causing injury in the Knoxville section.

Kentucky. W. A. Price (May 25): Bean injury was common the latter part of May.

Illinois. A. F. Satterthwait (May): An adult appeared in a Japanese beetle trap at Urbana-Champaign on May 13.

#### PEAS

##### PEA WEEVIL (Bruchus pisorum L.)

Georgia. T. L. Bissell (May 22): Weevils are ovipositing freely on pods of Austrian peas at Experiment.

Michigan. R. Hutson (May 21): Reported in garden peas at Mulliken, Roscbush, Lansing, and Owosso.

Idaho. T. J. Brindley (April 29): Few adults collected near Moscow on April 25.

Washington. W. Shaw (April 29): Located on a farm in the Agnew district of Clallam County on December 11, 1939. Believed to be the first record in the county.

##### PEA APHID (Macrosiphum pisi Kltb.)

New York. N. Y. State Coll. Agr. News Letter (May 20): Scarce in Nassau County.

Maryland. L. F. Ditman (May 25): Gradual increase at Ridgely since the second week in May, occurring in such numbers that control measures were necessary on late peas.

Mississippi. C. Lyle (May 25): Reported as causing injury to English peas in various parts of the State.

Louisiana. C. O. Eddy (May 22): Very rare this spring.

#### CABBAGE

##### IMPORTED CABBAGE WORM (Pieris rapae L.)

Connecticut. M. Turner (May 23): Adults flying in small numbers for the last 10 days. No larvae seen up to the present.

New York. N. Y. State Coll. Agr. News Letter (May 27): In eastern New York, in Columbia County, a scattering of eggs is evident. In Richmond and Rockland Counties adults observed in small numbers.

South Carolina. W. J. Reid, Jr. (May 23): Owing to unusually low temperatures of the last winter and continued cool weather, that prevailed until well into May, populations of the cabbage looper (Autographa brassicae Riley), the diamond-back moth (Plutella maculipennis Curt.), and the imported cabbage worm were greatly below those of the average season on the commercial spring cabbage crop in the vicinity of Charleston. Appearance of each of the three species in appreciable numbers on the spring crop was from 2 to 3 weeks later than the average of the preceding 4 years.

F. Sherman (May 27): Adults seem fewer than usual this spring at Clemson.

Mississippi. L. J. Goodgame (May 25): Damage quite noticeable in the north-eastern section of the State.

Missouri. L. Haseman (May 21): Adults not nearly so abundant as usual.

North Dakota. J. A. Munro (May 23): Adults moderately abundant at Fargo.

Washington. L. G. Smith (April 29): First adults of the season seen flying on April 20 in Pullman.

#### APHIDS (Aphididae)

South Carolina. J. G. Watts (May): Very abundant at Blackville on cabbage, collards, and turnips, despite extensive activity by parasites and predators.

W. J. Reid (May 23): Cabbage aphid (Brevicoryne brassicae L.) observed to be more abundant on spring cabbage than at any time during the last 12 years at Charleston. Observations made at harvest in a 2-acre planting reveal that plants having moderate and heavy infestations showed noticeable injury.

Mississippi. C. Lyle (May 25): Thirty percent of the cabbage in the northeastern part of the State reported as rendered unfit for market. Severe damage to turnips also reported from northern Mississippi.

Tennessee. L. B. Scott (May 23): Very abundant on cabbage in north-central Tennessee, and damage reported as serious in many instances.

Ohio. R. H. Nelson and N. F. Howard (May 25): B. brassicae extremely abundant on April 26 on young cabbage plants in the field at South Point. No infestations noted on some plants. Increase in numbers made control measures necessary.

Washington. L. G. Smith (May 15): Severe infestation found on leaves, stalks, and tips of seed cabbage just west of Mount Vernon, in Skagit County, on May 10.



CABBAGE SHOOT WEEVIL (Ceutorhynchus assimilis Payk.)

Washington. L. G. Smith (April 29): Observed on wild mustard in bloom in the Brady district of Grays Harbor County on March 19. However, no weevils were found on a field of mustard in bloom on Orcas Island which was examined on March 21.

CABBAGE CURCULIO (Ceutorhynchus rapae Gyll.)

Ohio. T. H. Parks (May 31): Cabbage plants reported as attacked in hotbeds in Morgan County. Both larvae and eggs present in stems of plants.

Missouri. J. A. Denning (April 29): Specimen which was collected on a species of Cheiranthum on April 26 received from Glendale. Reported as being very troublesome in a perennial garden. (Det. by L. L. Buchanan.)

Wisconsin. C. L. Fluke (May 20): Very numerous in Dane County in vicinities where it was destructive last year to early cabbage seedbeds. Considerable damage by feeding of adults but no eggs found. Seedbeds found by adults as soon as the plants emerged above ground. First adults noticed on May 8.

Oregon. J. R. Parker (May): Eggs present on and small larvae found attacking the young transplanted cabbage in Douglas County. The larvae were doing considerable damage.

CABBAGE MAGGOT (Hylemya brassicae Bouche)

Connecticut. N. Turner (May 23): Eggs first observed on cabbage on May 13, about 10 days later than usual. Heavy infestations reported in several parts of the State, and severe damage is expected.

New York. N. Y. State Coll. Agr. News Letter (May 13): Flies were laying eggs on Long Island cabbage and cauliflower from May 7 to 10; (May 20): Adults and eggs reported in Monroe County, western New York, on May 13 and 15. (May 27): Eggs could be found around practically every early set cabbage plant and in most seedbeds in Niagara County from May 20 to 22. Small numbers of eggs were observed on May 20 in Erie County, being numerous in the Boston area. On May 24 they were numerous in the Orchard Park section. In Orleans County adults have been laying eggs in seedbeds, but no heavy infestation has been observed.

Pennsylvania. H. E. Hodgkiss (May 25): Egg laying is about normal. Cold weather has delayed oviposition considerably.

Idaho. R. G. Fisher (May 8): Reported on May 4 that adults have been emerging for the last 2 weeks and are now abundant in the Moscow area.

SQUASH

SQUASH BUG (Anasa tristis Deg.)

Mississippi. C. Lyle (May 25): Heavy infestations on summer squash in Pearl River County.

SQUASH BEETLE (Epilachna borealis F.)

Louisiana. L. L. Neveu (May 22): One specimen collected on April 26 but not found on a host plant.

ASPARAGUS

ASPARAGUS BEETLES (Crioceris spp.)

New York. N. Y. State Coll. Agr. News Letter (May 27): C. asparagi L. and C. duodecimpunctata L. appeared last week in destructive numbers in quite a few plantings in Columbia and Schenectady Counties, in eastern New York. First eggs seen on May 21 and expected to hatch in the Hudson Valley this week. Control measures necessary in three fields of young asparagus. Also present in western Suffolk County. C. asparagi and C. duodecimpunctata were noted in numbers during the last week in Wayne County, in western New York.

Pennsylvania. H. E. Hodgkiss (May 25): C. asparagi reported as more abundant than usual.

South Carolina. J. G. Watts (May): Little increase of C. asparagi on asparagus at Blackville during May. Damage of little consequence.

Illinois. W. P. Flint (May 21): C. asparagi reported as very abundant in northern Illinois, especially in large fields.

Utah. G. F. Knowlton (May 17): Injury by C. asparagi is severe in parts of northern Davis and Weber Counties.

Washington. R. D. Eichmann (April 29): C. asparagi was becoming quite prevalent in the Prosser-Walla Walla area on April 16. Mating observed, and some eggs found on small asparagus stalks.

R. S. Lehman (May 18): Large larvae of the first brood of C. asparagi are doing considerable feeding on asparagus in the vicinity of Walla Walla.

ASPARAGUS MINER (Agromyza simplex Loew)

Washington. R. D. Eichmann (April 29): Mating observed in the Prosser-Walla Walla area. Flies numerous in all asparagus fields visited on April 16 and 17.

WATERCRESS

WATERCRESS LEAF BEETLE (Phaedon aeruginosus Suffr.)

Massachusetts. A. E. Stene (May 29): Severe outbreak reported from a greenhouse in Seekonk. Crop practically destroyed in one house and badly damaged in another.



## ONIONS

### ONION MAGGOT (Hylemya antiqua Meig.)

Oregon. B. G. Thompson (May): Early planted onions severely injured in the Willamette Valley. Appear to be more numerous than for many years.

## SWEETPOTATO

### SWEETPOTATO FLEA BEETLE (Chaetocnema confinis Crotch)

Mississippi. C. Lyle and assistants (May 25): Reported as present in large numbers in sweetpotato beds in Lamar County. Injury also reported from the Meridian area and from Calhoun County.

Louisiana. K. L. Cockerham (May 4): Present in injurious numbers about May 1 at Sunset, Saint Landry Parish, southwestern Louisiana, attacking sweetpotato plants on seedbeds and morning-glory plants on experimental beds. Control measures necessary on morning-glory.

## STRAWBERRY

### STRAWBERRY WEEVILS (Curculionidae)

Utah. G. F. Knowlton (May 9): Brachyrhinus ovatus L. and a few B. rugosostriatus Goeze are damaging strawberry patches in Salt Lake County.

Idaho. J. R. Douglass (May 18): Complaints received from growers in the Twin Falls area that B. ovatus is causing serious injury to old strawberry plantings.

Washington. L. G. Smith (May 22): On May 13 weevils were reported in the grub stage and as feeding on roots, causing plants to appear wilted, in the Veradale vicinity of Spokane County. Light attack observed in the Bellingham and Lynden area on May 10. Reported as attacking strawberries with severe damage in some places on May 2. First year this insect has caused noticeable injury. Number seems to be highest in sections of the fields having gravelly soils. They were transforming from the larval to the pupal stage. Infestation located in the McKinley district of Yakima County about 5 miles west of Toppenish. One adult taken from the foliage of a strawberry plant on April 9 in the Montesano district of Grays Harbor County.

### STRAWBERRY WEEVIL (Anthonomus signatus Say)

New York. N. Y. State Coll. Agr. News Letter (May 27): In eastern New York weevils were observed doing damage on May 17 in Ulster County, on May 16 in Dutchess County, on May 27 in Suffolk County, and on May 21 in Orange County.

Delaware. L. A. Stearns (May 15): Much less abundant this year throughout the strawberry area in southern Delaware, in Sussex County, than in 1939.

Maryland. L. P. Ditman (May 15): The strawberry clipper is less numerous than last year, but considerable injury noticed in some places since May 10.

Tennessee. G. M. Bentley (May 23): Severe damage to strawberries on May 3 at Ripley, Lauderdale County. Two percent of the stems were attacked on May 6 at Milan, Gibson County. Reported from Portland, Sumner County, on May 7. no particular damage.

WESTERN GRAPE ROOTWORM (Adoxus obscurus villosulus Schr.)

Washington. W. W. Baker (May 13): This pest has previously appeared on the blossoms of strawberry but this is the first time that adults have been observed feeding on the foliage. Only a small section of a field at Sumner, Pierce County, was infested, but the beetles were rather thick, 3 and 4 adults per plant being common and around 12 beetles found on some.

STRAWBERRY CROWN BORER (Tyloderma fragariae Riley)

Kentucky. W. A. Price (May 25): This continues to be a serious pest in strawberry patches.

STRAWBERRY FRUITWORM (Cnephasia longana Haw.)

Oregon. R. G. Rosenstiel (May 20): About two-thirds of the larvae in the Willamette Valley are in the last instar. Advancement is about the same as last year. Very few pupae found recently. Damage on strawberries and flax severe in some localities.

THRIPS (Thysanoptera)

Utah. G. F. Knowlton and F. C. Harnston (April 27): Severely injuring strawberries at Hurricane, Toquerville, and LaVerkin.

SPITTLE BUG (Philaenus leucophthalmus L.)

Washington. L. G. Smith (May 8): Eggs noticed hatching on April 9 in the Montesano district of Grays Harbor County. (May 22): Occurrence of spittle bugs reported on May 10 in the strawberry hill section near Elma, Grays Harbor County, in approximately the same numbers as last year.

E. C. Durdle (May 15): Strawberries and chrysanthemums attacked throughout Clark County on May 11, bugs having appeared about May 1.

MEALYBUGS (Pseudococcus sp.)

Montana. M. M. Afanasiev (April): Investigations into the nature of yellowing of strawberries in the Experiment Station at Bozeman during 1936-39 have led to the conclusion that mealybugs are responsible for the appearance on strawberries of the symptoms somewhat resembling crinkle disease.



RED SPIDERS (Tetranychus spp.)

Washington. L. G. Smith (May 8): Adults found attacking strawberries, with moderate to severe damage, on May 2 on the grounds of the Western Washington Experiment Station at Puyallup. Hop yards in the Yakima vicinity were visited on March 18 to determine where the mites were overwintering. A few were found in scars and crevices of old vines, but most of them were feeding on this year's growth of plantain and dock in and around edges of the field.

Oregon. H. E. Morrison (May 16): Adults and eggs of T. tolarius L. were found to be abundant on strawberries at Corvallis.

SUGAR BEETS

SUGAR-BEET ROOT MAGGOT (Eurycephalomys nyopaeiformis Roeder)

Idaho. J. R. Douglass (May 21): Adults now common in the Rupert-Paul area.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula F.)

Virginia. S. B. Fenne (May 18): Causing considerable injury to tobacco in plant beds, where they were not properly constructed, in eastern Virginia. Quite plentiful during the first week of May.

Florida. F. S. Chamberlin (May 6): Unusually scarce on newly set tobacco plant in the Quincy area.

Ohio. T. H. Parks (May 31): Reported today as seriously injuring young tobacco plants in plant beds in Brown County, southwestern Ohio.

Tennessee. L. B. Scott (May 23): Appeared in only an occasional tobacco plant bed in north-central Tennessee. Abundance less than normal, and damage of little consequence.

A DIPTERON (Exechia sp.)

Maryland. E. N. Cory (May 10): Reported on tobacco seedbeds at La Plata.

GARDEN SPRINGTAIL (Bourletiella hortensis Fitch)

Massachusetts. A. W. Morrill, Jr. (May 21): One infestation at Westfield was more severe than ever seen before by the reporter.

Connecticut. A. W. Morrill, Jr. (May 21): A few growers have complained about damage.

HOPS

HOP PESTS (Coleoptera)

Oregon. H. E. Morrison (May 12): A 14-acre hop yard at Salem reported as being infested by Prionus californicus Mots. and Polyphylla decemlineata Say, about 75 percent of the plants having their roots attacked by the larvae. Plants eventually killed.

C O T T O N I N S E C T S

BOLL WEEVIL (Anthonomus grandis Boh.)

South Carolina. F. F. Bondy and C. F. Rainwater (May 4): Very few weevils active in the cages in Florence County, and none caught on the screen trap nor in the trap crop. (May 25): Still scarce in Florence County. One was caught in the field of the experiment station.

Georgia. P. M. Gilmer (May 4): Only 2 live weevils seen in the field this spring. (May 25): Very few indications found in Tift, Berrien, and Cook Counties. Undoubtedly the lightest infestation in 5 years at this season.

Correction.--T. L. Bissell (May): On page 105 of the Insect Pest Survey Bulletin dated May 1, 1940, "One boll weevil seen in flight" should read "One boll weevil caught in flight."

Florida. C. S. Rude (May 11): For the week ended May 7, 1938, weevils were observed in stub cotton in Marion and Alachua Counties; for the week ended May 6, 1939, weevils were reported in Lake and Marion Counties; reported this week in a few fields in Lake County, but reports not confirmed. (May 25): Infestation for the same period in 1938 and 1939 much heavier than it is this year. Examination of 10 cottonfields during the week in Lake County showed no weevils; 5 fields examined in Marion and Alachua Counties; 1 weevil found in the experimental field at McIntosh, Marion County, and 3 weevils in the experimental field west of Gainesville, Alachua County; no infestations found in any of the other fields.

Mississippi. J. C. Clark, et al. (May 25): No weevils found in Washington County. Cotton near hibernation quarters is very small.

Louisiana. R. C. Gaines and assistants (May 11): Three taken on field flight screens in Madison Parish for week ended May 10. Two taken for the week ended May 17.

M. T. Young and assistants (May 25): Examination of cotton plants in Madison Parish on May 24 and 25 showed 29 weevils present on 12,000 plants, or an average of 1 weevil per 414 plants. Two taken on field flight screens for week ended May 24, as compared with 2 in 1939 and 5 in 1938.

Texas. F. L. Thomas (May 1): It has been determined that an average of one-half the living weevils that survive the winter emerge from their shelter prior to May 1, the emergence usually amounting to about 3 out of every 100 weevils. This year only 1 out of 5,000 has emerged. (May 14): A few have been found in the fields. (May 21): Reported in 2 of 4 fields examined near wooded areas in Brazos County. None reported from Burleson, Calhoun, nor Fort Bend Counties, where examinations have been made. (May 28): Found to be numerous in spots, particularly near woods where winter shelter was available, in Brazos and McLennan Counties.



L. C. Fife (May 11): For the week ended May 4 in the Brownsville area, 1,500 squares were examined in 9 fields, showing an average of 2 percent punctured squares per field, with a maximum of 5 percent; for the week ended May 11, in 18 fields, 2,400 squares were examined, showing an average of 0.7 percent punctured squares per field, with a maximum of 4.5 percent.

R. W. Moreland, et al. (May 25): On May 23, 600 cotton plants just beginning to square were examined in a 3-acre field near Mart, McLennan County, and 9 weevils found.

A FLEA BEETLE (Systema tenebriosa Say)

Georgia. H. O. Lund (May 25): At least 20 acres of very young cotton, 5 or 6 inches high, at Winder severely damaged. Often 5 or 6 beetles can be found on 1 plant. Infestations apparently very uniform over the fields involved. All in stubble last year.

Mississippi. C. Lyle (May 25): Serious damage caused to cotton in some fields in Webster County on May 24.

BOLLWORM (Heliothis armigera Hbn.)

Texas. L. C. Fife (May 4): Considerable damage caused to young seedling cotton in Raymondville and Rio Hondo. (Det. by C. Heinrich.)

PINK BOLLWORM (Pectinophora gossypiella Saund.)

Texas. W. T. Hunt, et al. (May): Specimens collected from cotton blooms on May 16 at Brownsville. (May 28): A larva collected on cotton at Santa Maria. (Both det. by C. Heinrich.)

COTTON LEAF WORM (Alabama argillacea Hbn.)

Mexico. R. L. McGarr (May 17): Specimens, thought to be the first found this season, collected on cotton at Matamoros on May 13. (Det. by C. Heinrich.)

SALT-MARSH CATERPILLAR (Estigmene acrea Drury)

Texas. C. R. Parencia (May 11): Much damage done to cotton in Calhoun County in fields bordered by pasture lands. (May 18): This pest has largely disappeared in Calhoun County.

LEPIDOPTEROUS PESTS

Texas. L. C. Fife (May 4): During the week, 5,175 mature green seed pods of Hibiscus cardiophyllus were examined, most of them being collected between Rio Grande City and Laredo. All of the samples inspected showed an infestation of Noctuella rufofascialis Steph., as high as 80 percent in some of them. Of 625 buds and young pods of okra examined from 5 fields in the Brownsville area, some were found to be infested with Crociosema plebeiana Zell.

GARDEN WEBWORM (Loxostege similalis Guen.)

Mexico. F. F. Bibby and I. Moreno (May 11): Larvae observed feeding on cotton foliage at Ejido Revolucion, near Matamoros. (Det. by C. Heinrich.)

COTTON FLEA HOPPER (Psallus seriatus Reut.)

Georgia. P. M. Gilmer (May 11): Reported as present near Albany, in Dougherty County, whence control inquiry was received. Extent of infestation not reported. No other reports.

Louisiana. C. O. Eddy (May 22): Abundant in northwestern Louisiana on evening primrose and croton.

Texas. F. L. Thomas (May 1): The situation is rather uncertain, but has a tendency to appear menacing. (May 8): Adults have been steadily increasing among their favorite weed hosts and over the last week end these insects have been drifting on the strong winds. In Dallas, Hunt, Kaufman, and Van Zandt Counties, northern Texas, hatching in croton or goat weeds has been very abundant, but the insects have not had time to mature. (May 14): Not so abundant as last year in the cottonfields of southern Texas. During the last week there was an average of only 5 per 100 terminal buds in cotton in southern Texas, whereas a year ago at approximately the same time, there was an average of 18. Dry, cool weather has probably prevented hatching of many of the overwintered eggs in the croton weeds of that area. Hatching in south-central Texas has dropped off, while in the north-central part of the State it was abundant last week. (May 21): Flea hoppers have been transferring from early spring weeds to horsemint and cotton. No reports of damage received from the lower Rio Grande Valley, but in Calhoun County they are very abundant in cotton in a few instances. At Sugarland, in Fort Bend County, they are beginning to breed in cotton and also in the oldest cotton of south-central Texas. Adults found in practically all bottom-land fields examined in the last-named area. (May 28): Flea hoppers have been increasing slowly and in damaging numbers in a few fields of the coastal counties. Examination of 21 fields in Calhoun County showed that more nymphs were present this week than last week, although the numbers of adults had slightly decreased.

R. W. Moreland, et al. (May 25): Five emerged in the cages in McLennan County during the period May 20 to 25, as compared to 31 for the period May 13 to 18, and 8,353 for the week ended May 11. Three nymphs were found in examining 600 cotton plants that are squaring near Mart.

APHIDS (Aphidae)

South Carolina. F. F. Bondy and C. F. Rainwater (May 18): Leaf and root aphids present on cotton in Florence County, the former doing little damage, while the latter are doing severe damage in some fields. (May 25): Leaf aphids have increased since last week and are doing some damage to seedling cotton.



Georgia. P. M. Gilmer (May 18): Considerable increase in populations occurred this week in Tift, Cook, Berrien, and Lowndes Counties. No serious infestation, but colonies easily located in most fields. Parasitization by Lysiphlebus testaceipes Cress., amounted to 100 percent in many colonies. No colony completely free of the parasite, and adult individuals fairly common in almost any colony examined. A rather large number of colonies also supported larvae of Megilla sp., so that it is believed that the situation is well under control from natural causes.

Florida. C. S. Rude (May 18): Several fields in Lake County observed where the infestation had been extremely heavy. In every instance parasites and predatory insects have almost destroyed the aphids.

Mississippi. E. W. Dunnun, et al. (May 18): An examination of 600 seedling cotton plants in the 3-leaf stage in Washington County yielded 403 aphids, 102 plants being infested. This is the heaviest infestation ever observed at this time of the year.

J. C. Clark, et al. (May 25): Examination of 700 plants in the 5-leaf stage in Washington County yielded 5,508 aphids, 368 plants being infested.

C. A. Wilson (May 22): Observed as rather numerous on some of the small cotton in Oktibbeha County, probably owing to the cool weather of this spring.

Louisiana. M. T. Young and assistants (May 25): Present in all fields in Madison Parish, although numerous in only a few fields. Many destroyed by parasites.

Texas. F. L. Thomas (May 14): At present a heavy infestation is causing considerable damage to cotton planted in March in the Coastal Bend area. (May 28): Aphids have practically disappeared in southern Texas, but were increasing in many fields of north-central Texas.

P. A. Glick (May 18): Noticeable in most fields in McLennan County, wherever cotton has been chopped. An examination of 200 plants showed a total of 161 aphids.

R. W. Moreland, et al. (May 25): Aphids are increasing in most fields in McLennan County.

C. R. Parencia (May 11): Cotton being severely damaged in Calhoun County, there being a generally heavy infestation over this locality. Predators are now appearing, and some of the cotton beginning to react from damage. (May 25): Practically all gone from the variety test by May 21.

#### THRIPS (Thysanoptera)

Louisiana. M. T. Young and assistants (May 25): Damage noticed in a few fields in Madison Parish.

Texas. F. L. Thomas (May 21): Reported as having retarded the development of cotton on most of the acreage in the lower Rio Grande Valley and to have caused replanting in some instances. Until the recent rains thrips also had increased rapidly in the cottonfields of southeastern and south-central Texas.

L. C. Fife (May 4): Severe damage to seedling cotton observed in many fields between Brownsville and McAllen. Injury seems to be greatest in fields adjacent to vegetable crops.

P. A. Glick, et al. (May 18): Thrips noticeable in most fields in McLennan County, an examination of 200 plants showing a total of 231 thrips.

R. W. Moreland, et al. (May 25): Development of cotton retarded in a number of fields visited in McLennan County. In examining 25 cotton plants at each of 6 different points in a field, an average of 252 thrips was found per 100 plants.

#### FOREST AND SHADE - TREE INSECTS

##### PERIODICAL CICADA (Magicicada septendecim L.)

Pennsylvania. H. E. Hodgkiss (May 25): No emergence of Brood XIV in several counties where this brood was known to occur in 1923. Chimneys and openings under rocks in woods numerous. On May 16 a previously unknown colony was found in an apple orchard in Juniata County, where the nymphs are abundant just beneath the surface.

North Carolina. C. H. Hoffman (May 15): Emergence observed first on May 14 in Asheville, Buncombe County. Emergence holes and chimneys were seen as early as May 1, although no cast nymphal skins were found then.

Tennessee. A. C. Cole, Jr. (May 20): Adults just emerging at the University of Tennessee farm at Knoxville. Apparently not numerous.

W. F. Turner (May 21): Present on oak for about 4 miles, north of Martin Springs, Marion County. Taken in a peach orchard in Roane County on May 18 (Det. by P. W. Oman.)

##### FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Massachusetts. A. I. Bourne (May 24): Found hatching the first few days of May. This is later than usual.

New York. E. P. Felt (May 23): Observed in numbers in areas bordering the Catskills, particularly in Oneonta, Delhi, Kingston, and Liberty. These are all sections adjacent to mountain areas which were defoliated for two or three seasons in succession during the last few years. There seems to be a gradual spread in an easterly direction from mountain tops, where injury has been extended and damage to trees severe. At the present time some good-sized trees in Kingston have been defoliated.



N. Y. State Coll. Agr. News Letter (May 6): In the eastern part of the State these pests began hatching on April 28 in Orange County; fairly common but not serious on apple buds in Ulster County; first observed hatching on April 30 in Dutchess County.

Pennsylvania. H. E. Hodgkiss (May 25): Larvae on trunks of trees in Monroe County on May 17. Many larvae seen in Susquehanna County during the same week.

Mississippi. J. E. Lee (May 25): What threatened to be a heavy infestation in Pearl River County has about disappeared.

#### TENT CATERPILLARS (Malacosoma spp.)

Utah. G. F. Knowlton and F. C. Harnston (May 11): Damaging poplars and willows in several scattered localities of the State.

Washington. L. G. Smith (April 29): In a few observations on Vashon Island and along the highway between Seattle and Mount Vernon, very few eggs could be found. (May 8): Found attacking fruit trees, alders, and shrubs throughout Snohomish County on May 4. Just starting to feed in a few sections. Reported as attacking cherry trees with light damage on May 4 in the East Sound area of San Juan County. First caterpillars appeared earlier this year than last. (May 15): Reports from all parts of Pierce County telling of attacks on all fruit trees. Larvae attacking cherry and alder in the Willapa Valley on May 13.

Oregon. B. G. Thompson (May 20): Larvae of M. pluvialis Dyar more numerous than for many years. In the coast foothills of the Willamette Valley they are attacking fruit trees, ornamentals, and alders. Many small apple orchards completely defoliated. Most of this damage occurred within the last 2 weeks. Stated that they are very abundant on alder, willow, and apple from Triangle Lake to Florence. Many trees completely defoliated.

#### CANKERWORMS (Geometridae)

New York. N. Y. State Coll. Agr. News Letter (May 13): In western New York cankerworms were observed in the vicinity of Ithaca and in Monroe, Orleans, and Wayne Counties. (May 27): In Rockland County, eastern New York, spring cankerworms first observed on May 18. Quite a number found since then.

Pennsylvania. H. E. Hodgkiss (May 25): Female adults of the fall cankerworm (Alsophila pomataria Harr.) taken on April 25 and eggs were being deposited on May 1. Eggs abundant in all counties at that time. During the week beginning May 12 hatching was general throughout the central and southeastern counties.

Ohio. T. H. Parks (May 25): Elms and other trees along streams near Columbus being severely damaged by larvae of the fall cankerworm and the spring cankerworm (Paleacrita vernata Peck). Fall species much more abundant than spring species.

- Kentucky. W. A. Price (May 30): Very abundant in central Kentucky on elm, hackberry, locust, and wild cherry.
- Michigan. R. Hutson (May 21): Fall cankerworms numerous on elms in East Lansing.
- Iowa. C. J. Drake (May 21): Cankerworms reported in scattered localities over the State. Most of them seem to be the fall or spring cankerworm but some specimens belong to other species.
- Missouri. L. Haseman (May 21): Unusually severe infestation, which seems to be general throughout most of the State, has already begun to show up with severe shredding of the foliage, especially on elms and untreated fruit trees.
- North Dakota. J. A. Munro (May 23): Adults of the spring cankerworm observed ascending trees late in April in the vicinity of Fargo.
- Nebraska. M. H. Swenk (May 17): First report of defoliation of trees by P. vernata received on May 11 from Furnas County, where some 15-year-old American elms were being attacked.
- Kansas. H. J. Hungerford (May 20): P. vernata is doing little damage in Lawrence, but is fairly abundant in some spots in the surrounding country.

ELM SPANWORM (Ennomos subsignarius Hbn.)

- Connecticut. G. H. Plumb (May 21): This is the third year that this infestation in a red maple-elm-yellow birch swamp at Monroe has been under observation. Larvae hatched within the last few days and many leaves already have had small holes eaten in them. They appeared to be most abundant on elm.

PALE TUSsock MOTH (Halisidota tessellaris A. & S.)

- Georgia. T. L. Bissell (May 28): Large numbers of moths are coming to lights at Experiment, central Georgia.

GYPSY MOTH (Porthetria dispar L.)

- Maine. F. H. Lathrop (May 16): First eggs observed hatching at Monmouth, Kennebec County. This is about 4 days earlier than last year. Egg masses abundant in some places in the woods.
- Vermont. S. S. Crossman (May 4): In the township of Salisbury, Addison County, an infestation was located about 1,700 feet from an assembling cage at which one male gypsy moth was taken last summer.

H. L. Bailey (May 23): Newly hatched larvae were found clustered on egg masses in Putney and Brattleboro, Windham County, on May 18. Some larvae were feeding on low foliage at Vernon on May 18 in the southeastern part of Vermont. Fair hatch observed at Putney from egg masses well above snow line.



Massachusetts. S. S. Crossman (April 13): During the week an infestation of about 50 egg clusters was found in Clarksburg, Berkshire County. The center of this infestation is in scrubby hardwood growth.

Connecticut. S. S. Crossman (May 4): Two new infestations found in Cornwall, Litchfield County, one of which is located at a relatively high elevation in growth largely favored as food plants.

Pennsylvania. S. S. Crossman (April 20): During the week a small infestation, covering approximately 2 acres, was located in Mauch Chunk, Carbon County.

PAINTED HICKORY BORER (Cyllene caryae Gahan)

Illinois. A. F. Satterthwait (May): Conspicuous in several Japanese beetle traps at Urbana-Champaign on May 13.

ASH

AN APHID (Prociphilus fraxinifolii Riley)

Arizona. C. D. Lebert (May 21): Observed in several places in the Phoenix area, causing serious leaf curl on ash trees. More abundant in this area than in previous years.

ASH FLOWER GALL (Eriophyes fraxiniflora Felt)

New York. R. E. Horsey (May): Very numerous on May 9 on a number of large white ash in an ornamental planting at Rochester.

AN ASH SAWFLY (Tomostethus multicinctus Rohw.)

Oklahoma. F. A. Fenton (May 24): Reported in Cleveland.

CARPENTER WORM (Prionoxystus robiniae Peck)

North Dakota. J. A. Munro (May 23): Injury recently caused in a Chinese elm, according to a recent survey of trees on the campus of North Dakota Agricultural College. First time observed on this host. Other trees infested were green ash, American elm, and cottonwood, green ash being the most heavily infested.

BIRCH

BRONZED BIRCH BORER (Agrilus anxius Gory)

Iowa. C. J. Drake (May 21): Very abundant in Des Moines and has been doing considerable damage for about 2 years in that city.

BOXELDER

BOXELDER APHID (Periphyllus negundinis Thos.)

Utah. G. F. Knowlton and H. F. Thornley (May 19): Extremely abundant on many trees in northern Utah.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

General. E. A. Back (May 25): Specimens received from houses throughout May from the following States: Massachusetts, Rhode Island, Connecticut, New York, and Pennsylvania.

Rhode Island. A. E. Stone (May 29): Unusual number of complaints during the last few months of these beetles in houses.

Massachusetts. A. I. Bourne (May 24): Unusual number of complaints generally during winter and spring of beetles in houses. Many specimens sent in.

Utah. G. F. Knowlton (May 20): Now injuring elm foliage at Smithfield.

ELM FLEA BEETLES (Altica spp.)

Massachusetts. A. I. Bourne (May 24): A. ulmi Woods reported as very abundant in and around Pittsfield, Berkshire County, as well as in other parts of western Massachusetts. Found in large numbers near base of elms and under loose flakes of bark during early spring.

Pennsylvania. G. B. Slossman (May 24): Locations which were heavily infested with overwintering adults of A. carinata Germ. in the Philadelphia area, were checked during the last week. Heavy defoliation of American elm observed in many instances. Definite areas showed complete defoliation while other parts of trees showed light damage. No larvae found. (Det. by T. L. Guyton.)

ELM SAWFLY (Cimbex americana Leach)

Oklahoma. F. A. Fenton (May 24): Reported from Cushing.

WOOLLY ELM APHID (Eriosoma americanum Riley)

Utah. G. F. Knowlton and F. C. Harnston (May 11): American elm leaves being rolled at Logan and Richmond.

G. F. Knowlton (May 25): Curling elm leaves on several elm trees at Cedar City.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Wisconsin. E. L. Chambers (June 1): More abundant than usual in several localities in southeastern Wisconsin.



Iowa. C. J. Drake (May 21): Reported on American elm at Marshalltown and Cherokee.

Utah. G. F. Knowlton (May 31): Damaging elms at Logan and Richmond.

#### FIR

AN APHID (Dilachnus pseudotsugae Wilson)

Washington. L. G. Smith (May 8): Attacking firs and shrubs in King County on May 2.

#### HACKBERRY

HACKBERRY NIPPLE GALL (Pachypsylla coltidis-mamma Riley)

Oklahoma. F. A. Fenton (May 24): Reported from Ponca City.

#### LARCH

LARCH CASEBEARER (Coleophora laricella Hbn.)

New York. R. E. Horsey (May 16): Appearing on American, European, Japanese, and Dahurian larches at Rochester, and is more numerous than usual, even on treated trees. Nearly every leaf was half eaten on several nearby neglected seedling larches. A flock of ruby-crowned kinglets was very active in destroying this pest.

#### LOCUST

LOCUST LEAF MINER (Chalepus dorsalis Thunb.)

Virginia. A. M. Woodside (May 22): Very common in Augusta and Rockingham Counties. Leaves show much evidence of feeding.

LOCUST BORER (Cyrtene robiniae Forst.)

Nebraska. M. H. Swenk (May 17): Found damaging locust trees in Cass County on April 17.

CALICO SCALE (Locanium cerasorum Ckll.)

Arizona. C. D. Lebert (May 21): A scale, probably this species, was found heavily infesting native locust trees in Superior.

#### MAPLE

APHIDS (Aphididae)

Utah. G. F. Knowlton (May 10): Sycamore maple at Logan damaged. (May 15): Injuring silver-maple foliage at Centerville.

Mississippi. C. Lyle (May 25): Specimens of the woolly alder aphid (Prociophilus tessellatus Fitch) received from Pontotoc County, where a maple tree was heavily infested.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Texas. R. K. Fletcher (May 17): Found on May 4 in Denton County.

Washington. J. Keene (May 29): Found attacking boxelder in the Clarkston Heights district of Asotin County on May 24. This is the first infestation noted by the writer and the only time seen on boxelder.

MAPLE BLADDER GALL (Phyllocoptes quadripes Shim.)

Pennsylvania. H. E. Hodgkiss (May 25): Mite galls on soft maples were attracting more attention on May 20 than usual.

OAK

AN OAK LEAF ROLLER (Argyrotoxa semipurpurana Kearf.)

Connecticut. E. P. Felt (May 23): Larvae abundant in the Stamford area, and considerable injury may be expected.

GOLDEN OAK SCALE (Asterolecanium variolosum Ratz.)

Wisconsin. E. L. Chambers (June 1): Reported on oak in Milwaukee County. Control measures used in the suburbs of Milwaukee.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

General. E. P. Felt (May 23): Becoming somewhat common in southwestern New England and southeastern New York.

Michigan. R. Hutson (May 21): Reported at Detroit and Saint Joseph.

SILVER-SPOTTED HALSIDOTA (Euschausia argentata Pack.)

Washington. L. G. Smith (April 29): Severe defoliation on jack pine trees on Vashon Island was observed on March 20. (May 29): Reported as attacking Douglas fir in the vicinity of Bellingham on May 23. This is the first time they have been noted in that area.

A LOOPER (Ellopia pellucidaria G. & R.)

Georgia. H. O. Lund (May 7): Few specimens taken on pines in Athens. (Det. by H. W. Capps.)



A PINE SAWFLY (Neodiprion americanum Leach)

Virginia. L. A. Hetrick (May 25): Overwintered eggs started hatching in the field on May 3. Larvae in fourth instar on May 25. Defoliation becoming noticeable. Infestation is now known from Caroline, King and Queen, King William, and Mathews Counties.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

Alabama. G. M. Bentley (May 7): Specimens collected at Wilson Dam. Larvae taken from overwintered larval cases found in duff underneath short-leaf and loblolly pines. Dipterous parasites reared from them identified by D. G. Hall as Spathimeigenia spinigera Towns. and Phorocera sp.; hymenopterous parasites identified by R. A. Cushman as Spilocryptus lophyri Nort. and Stylocryptus subclavatus Say.

A PINE ROOT WEEVIL (Hylobius radicis Buch.)

General. E. P. Felt (May 23): Becoming somewhat generally established in scattered areas in southwestern New England and in southeastern New York, working particularly on Scotch and Austrian pines and in some cases seriously damaging a considerable proportion of the planting.

PALES WEEVIL (Hylobius pales Hbst.)

Massachusetts. A. I. Bourne (May 24): Several samples of characteristic injury on branches of pine received from various parts of the State.

WESTERN PINE BEETLE (Dendroctonus brevicornis Lec.)

Washington. R. P. Benson (May 9): Yellow pine trees attacked in the Elberton area, where light damage has occurred.

PINE BARK APHID (Pincus strobi Htg.)

General. E. P. Felt (May 23): Somewhat common in the area about Boston, Mass., and also in southwestern New England.

Maryland. E. N. Cory (May 23): Attacking white pine at Hyattsville.

Michigan. R. Hutson (May 21): Reported in Three Rivers, Jackson, and Kalamazoo.

PINE SPITTLE BUG (Aphrophora parallela Say)

Pennsylvania. G. B. Sleesman (May 24): Heavy infestations occurring on pine trees in both nursery-row and forest plantings. Severe damage noted last fall.

COOLEY'S SPRUCE GALL (Adelges cooleyi Gill.)

Utah. G. F. Knowlton (May 10): Reported as damaging needles at Ogden. Last year they caused pine-cone galls on Colorado blue spruce and white spruce.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Vermont. H. L. Bailey (May 23): Reported on mugho pine at Brattleboro, Windham County, southeastern Vermont, and Middlebury, Addison County, western Vermont. Eggs under specimens received from latter points unhatched on May 15.

Minnesota. A. G. Ruggles (May 21): Many inquiries received about pine needle scale on ornamental pines and spruce.

Nebraska. M. H. Swenk (May 17): Reported from Hitchcock and Scotts Bluff Counties on April 16 and May 2, respectively.

WOOLLY PINE SCALE (Pseudophilippa quaintancii Ckll.)

Mississippi. C. Lyle (May 25): Specimens recently received from Hinds County.

POPLAR AND WILLOW

COTTONWOOD LEAF BEETLE (Chrysomela scripta F.)

North Dakota. J. A. Munro (May 27): Specimens received with the report that they are seriously defoliating young cottonwood-tree stock at Mandan. Report indicates that beetles are prevalent along the Missouri River bottom lands.

SAWFLIES (Tenthredinidae)

Washington. L. G. Smith (May 8): Pupae collected on January 3 under willow trees. Reported that they had caused severe damage to shrubbery in the Thornton area.

POPLAR AND WILLOW BORER (Sternochetus lapathi L.)

Pennsylvania. H. E. Hodgkiss (May 25): Adults and larvae observed in Union County on May 14.

Michigan. R. Hutson (May 21): Reported at Detroit, East Lansing, and Owosso.

Washington. H. Zwisler (May 24): Native willow trees attacked in the Vancouver area, where severe injury is occurring. Some limbs are dying. Ground is covered with a mass of sawdust.

A EUROPEAN BORER (Saperda populnea L.)

California. P. Simmons and D. F. Barnes (April 19): A poplar in northwestern Tulare County was well infested with adults resting on foliage and twigs. Foliage extensively perforated with feeding holes, possibly made by beetles. (Det. by W. S. Fisher.)



SPRUCE

SPRUCE NEEDLE MINERS (*Eucosmidae*)

Michigan. R. Hutson (May 21): Taniva albolineana Kearf. and Epinotia nanana Treit. reported at Detroit.

Minnesota. A. G. Ruggles (May 21): More inquiries than ever before at this time of the year about T. albolineana.

EUROPEAN SPRUCE SAWFLY (Diprion polytorum Htg.)

Vermont. H. L. Bailey (May 23): On May 17 pupation had occurred in nearly 50 percent of cocoons found at Dover, Windham County, southeastern Vermont. Cocoons moderately abundant in range outside of last year's heavy infestation.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

Kentucky. W. A. Price (May 25): Red spider prevalent on evergreens in the central part of the State.

Michigan. R. Hutson (May 21): Reported at Freedland.

TULIPTREE

TULIPTREE SCALE (Toumeyella liriodendri Gmel.)

General. E. P. Felt (May 23): Young have wintered in considerable numbers and it appears that they will be at least moderately injurious in areas within 50 miles of New York City.

TUNG-OIL TREE

CORN EAR-WORM (Heliothis armigera Hbn.)

Florida. J. R. Watson (May 22): Mining young tung nuts in a grove in which a cover crop of vetch had just been disked in, undoubtedly the cause of driving the caterpillars to the tung nuts.

I N S E C T S   A F F E C T I N G   G R E E N H O U S E

A N D   O R N A M E N T A L   P L A N T S

BLACK VINE WEEVIL (Brachyrhinus sulcatus F.)

Kentucky. W. A. Price (May 10): Severe infestation discovered at Lexington early in May on Taxus shipped from New England. Insect not previously found in Kentucky. (Det. by W. H. Anderson and L. L. Buchanan.)

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

Oregon. J. Schuh (May 15): Twenty percent of one rose planting at Portland killed by larvae. Attacks occurred where nursery stocks of prunes and cherries were planted last year.

A RHINOCEROS BEETLE (Strategus julianus Burn.)

Texas. P. Clark (May 6): Specimen collected in McAllen destroying the roots of a century plant. (Det. by E. A. Chapin.)

MEXICAN MEALYBUG (Phenacoccus gossypii Towns. & Ckll.)

Maryland. F. F. Smith (April 13): Collected on Lilium longiflorum at Beltsville on April 4. (Det. by H. Morrison.)

CITRUS MEALYBUG (Pseudococcus citri Risso)

Ohio. E. W. Mendenhall (May 22): Injurious on Chinese evergreen plants (Aglaonema modestum) in houses and greenhouses at Columbus.

A PSYLLID (Psyllidae)

Washington. W. W. Baker (May 19): Small undetermined species of psyllid was common on Scotch broom on Vashon Island, King County, today; adults and cast skins of nymphs shaken in numbers from tips of plants. No evidence of appreciable effect on the plant.

A SCALE (Parlatoria proteus Curt.)

Maryland. E. N. Cory (April 18): Attacking an orchid at Baltimore.

ARBORVITAE

ARBORVITAE APHID (Cinara tujaefilina Del G.)

Mississippi. C. Lyle (May 25): Reports of injury in various parts of the State were received.

California. P. Simmons (March 27): Three plants of oriental arborvitae in Fresno, when examined today, were found to be heavily infested by this aphid. Many ants accompanying infestation were identified by M. R. Smith as Solenopsis xyloni var. maniosa Whlr.

AZALEA

AZALEA WHITEFLY (Alcurodes azaleae B. & M.)

Virginia. F. F. Smith (April 24): Specimens collected on two species of azalea at Norfolk on April 19. (Det. by Louise M. Russell.)



AZALEA SCALE (Eriococcus azaleae Const.)

Mississippi. C. Lyle (May 25): Specimens received from Leflore County on May 14.

PALMERWORM (Dichomeris ligulella Hbn.)

Alabama. L. L. English (May 6): Specimens received from Spring Hill. Reared from larvae feeding on the foliage of azalea. (Det. by J. F. G. Clarke.)

A MITE (Paratetranychus ilicis McG.)

Virginia. F. F. Smith (April 24): Found on azalea at Norfolk on April 19. (Det. by E. A. McGregor.)

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Laboulb.)

Maryland. E. N. Cory (May 15): Reported on old English box from Westminster, Carroll County, and from Baltimore County.

Virginia. A. M. Woodside (May 23): Less abundant than a year ago at Staunton. Adults began to emerge about May 16.

Washington. E. P. Brockey (May 22): Severe damage to boxwood reported in the vicinity of Seattle. Adults were seen emerging from infested shrubs in great numbers on May 10.

CAMELLIA

BROAD MITE (Hemitarsonemus latus Banks)

Massachusetts. W. B. Becker (April 23): Specimens of camellia leaves received. Reported as causing some concern to one of the owners of a large greenhouse in Hadley. (Det. by H. E. Ewing.)

COLUMBINE

COLUMBINE LEAF MINER (Phytomyza minuscula Gour.)

New Jersey. M. D. Leonard (May 29): A number of garden plants at Ridgewood found with some leaves entirely uninfested, whereas others had every leaf heavily mined.

COTONEASTER

A MOTH (Laspeyresia sp.)

Virginia. F. R. Freund (May 9): Specimens of a cocoon, pupa, and adult moth, which attacks cotoneaster, received from Richmond on April 9. Moth emerged on April 14. (Det. by C. Heinrich.)

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips simplex Morison)

Florida. J. R. Watson (May 22): Severe damage to gladiolus in the southwestern part of the State.

Wisconsin. E. L. Chambers (June 1): Growers report considerable injury to stored corns all winter, wherever storage was warm.

Louisiana. C. R. Blair (May 22): Found to be doing serious damage in one place in Baton Rouge.

HOLLY

HOLLY LEAF MINER (Phytomyza ilicis Curt.)

General. E. P. Felt (May 23): Rather abundant on holly in southwestern New England and in the southeastern part of New York.

Washington. E. P. Drockey (May 22): Reported as attacking holly severely. Flies have been emerging for several days.

IVY

OLEANDER SCALE (Aspidiotus hederæ Vallot)

Ohio. E. W. Mendenhall (May 22): Found quite bad on ivy plants in houses at Columbus.

JUNIPER AND CEDAR

JUNIPER SCALE (Diaspis carueli Targ.)

Pennsylvania. H. E. Hodgkiss (May 25): Generally very abundant.

Michigan. R. Hutson (May 21): Reported at East Lansing and Grand Rapids.

JUNIPER WEDWORM (Dichomeris marginellus F.)

Maryland. E. N. Cory (May 15): Found attacking juniper at Baltimore.

Michigan. R. Hutson (May 21): Reported at Jackson, Kalamazoo, and Lansing.

JUNIPER MIDGE (Contarinia juniperina Felt)

Kansas. H. D. Hungerford (May 20): Has caused much concern in Lawrence in the last few years, but scarce at present.



DEODAR WEEVIL (Pissodes nemorensis Germ.)

Mississippi. C. Lyle (May 25): Specimens observed on trees in Grenada County.  
Some damage observed in Oktibbeha County.

LILAC

BORERS (Podosesia spp.)

North Dakota. J. A. Munro (May 23): Ash and lilac borer moderately abundant in lilac hedges at Fargo.

WHITE PEACH SCALE (Aulacaspis pentagona Targ.)

North Carolina. J. O. Rowell (May 11): Specimens of lilac twigs infested with scales received from Mount Airy. (Det. by H. Morrison.)

OYSTERSHELL SCALE (Lepidesaphes ulmi L.)

General. E. P. Felt (May 23): Especially prevalent on ash and lilac in an area within 50 miles of New York City.

Maryland. E. N. Cory (May 27): Reported as attacking lilac at Baltimore.

Wisconsin. E. L. Chambers (June 1): Very abundant in several cities in southern Wisconsin on lilac, cotoneaster, and apple.

RHODODENDRON

RHODODENDRON BORER (Conopia rhododendri Deutn.)

Pennsylvania. E. P. Felt (May 23): Some injury caused to rhododendron stems in the Philadelphia area.

Maryland. E. N. Cory (May 27): Reported as attacking rhododendron at Westminster.

ROSE

APHIDS (Aphididae)

Maryland. L. P. Ditman (May 25): Aphids injuring roses in Prince Georges County.

Mississippi. C. Lyle (May 25): Reports of injury to rose from various parts of the State.

Missouri. L. Haseman (May 21): Slow to appear this spring but since the middle of May definite damage has been done to roses.

Utah. G. F. Knowlton (May 13): Pink and green rose-potato aphid (Macrosiphum solanifolii Ashm.) damaging apical growth of a number of rose bushes in northern Utah.

Nevada. G. G. Schweis (May 20): Heavy damage to roses.

Washington. J. C. Dodge (May 8): Gardens and rose bushes attacked in the Outlook and Ahtanum districts on March 22 and 23.

A LEAF CHAFER (Diplotaxis frondicola Say)

Mississippi. C. Lyle (May 25): Adults that were feeding on rose bushes received from Lauderdale County the last week in April.

SNOWBALL

APHIDS (Aphidae)

New York. M. D. Leonard (May 27): Recently several large bushes at Jackson Heights have become moderately infested with Aphis runcidis L.

Utah. G. F. Knowlton (May 10): A. runcidis and A. viburnicola Gill. are seriously damaging snowball flowers and leaves in several northern Utah localities. At Tooele the infestation by A. runcidis is more serious than that by A. viburnicola.

INSECTS ATTACKING MAN AND  
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Mississippi. G. L. Bond (May 25): Unusually numerous around streams in the coastal counties.

Tennessee. G. M. Bentley (May 23): At Knoxville larvae, pupae, and adults of the following mosquitoes were found: The tree hole mosquito (Aedes triseriatus Say) on April 26; the northern house mosquito (Culex pipiens L.) on April 28; and the southern house mosquito (C. quinquefasciatus Say) on April 30. Adults of the yellow-fever mosquito (A. aegypti L.) present at Knoxville on May 12.

Ohio. E. W. Mendenhall (May 23): C. pipiens present and annoying in Columbus and vicinity.

Utah. G. F. Knowlton and assistants (May): Mosquitoes abundant and annoying in northern Utah.

California. C. C. Deonier (May 1): Specimen of A. varipalpus Coq. collected on April 20 in a house at Nice. (Det. by A. Stone.)



SANDFLIES (Culicoides spp.)

Virginia. L. A. Hetrick (May 25): Very annoying in the vicinity of West Point from May 16 to 22.

Florida. F. C. Bishopp (May 7): C. mississippiensis Hoffm. collected from man at Panama City. (Det. by A. Stone.)

Louisiana. F. C. Bishopp (May 25): Four sandflies, C. biguttatus Coq. taken from a horse ridden into a swamp at Mer Rouge for purpose of collecting specimens. (Det. by A. Stone.)

A GNAT (Chaoborus astictopus D. & K.)

California. A. W. Lindquist (May 20): Larval population in the bottom mud of Clear Lake during the latter part of April indicated that approximately 48 percent fewer larvae were present a year ago. The greater number of gnats that have emerged, together with unusually high temperatures and absence of wind, is resulting in considerable oviposition.

HUMAN FLEA (Pulex irritans L.)

West Virginia. F. C. Bishopp (April 25): Twenty specimens submitted from around a barn and on man at Fort Gay. Infestation reported as heavy and extremely annoying. These are the first specimens identified from this State, to the writer's knowledge. (Det. by Helen L. Trembley.)

HEAD LOUSE (Pediculus humanus humanus L.)

Florida. F. C. Bishopp (May 25): Forty-eight cases of infestation out of about 8,000 school children, examined during the last year, have been recorded in Orange County.

A BUFFALO GNAT (Simulium vittatum Zett.)

Idaho. J. R. Douglass (April): About a dozen gnats were sent in from Twin Falls. Insects reported as having caused severe lesions on face and wrists of the patient. (Det. by A. Stone.)

BUGS (Cimex spp.)

West Virginia. E. A. Back (May 25): Specimens of C. pilosellus Horv. were taken crawling on walls of room beneath attic infested with bats on May 8 in Morgantown.

Iowa. E. A. Back (May 25): C. adjunctus Barb. collected in room of house in Muscatine, but reported as not attacking man. (Det. by H. G. Barber.)

Utah. G. F. Knowlton (May 25): Several reports of bedbug (C. lectularius L.) annoyance, particularly in log houses, received from Panguitch and other parts of Garfield County.

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

Virginia. F. R. Freund (May 5): Taken from clothing of child living in Richmond. (Det. by H. E. Ewing.)

CHIGGER (Eutrombicula alfreddugesi Oud.)

Nebraska. M. H. Swenk (May 1): Request for information on eradication from a yard in Douglas County.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Missouri. L. Haseman (May 21): From May 1 to about May 15 in the central part of the State, this pest showed up in unusual abundance on dogs. Decreased since middle of month.

Nebraska. M. H. Swenk (May 17): Report from Colfax County on April 18 that a dog was infested.

CATTLE

SCREWORM (Cochliomyia americana C. & P.)

Florida. W. V. King (May 22): Despite many inquiries, infestations considerably fewer in Orange County than at same time last year. Only two cases reported from Levy County; one at Melbourne early in April; one in Flagler County; and three in Volusia County.

Texas. R. Melvin (May 10): Three cases in lambs on a ranch near Menard. (May 13): Five cases found in animals at Menard. Reports received that flies are becoming active.

E. W. Laake (May 23): No reports of infestation at Dallas. Eighty-two C. macellaria F. taken from one sheep, but after infested herd was shorn no further infestation reported.

HORN FLY (Haematobia irritans L.)

Florida. A. L. Brody (May 20): One hundred or more flies noticed per animal on experimental farm at Panama City. On May 16 this number increased to 1,000 per animal. On May 15 hundreds were seen on cattle on the range at Gulf Beach, near Panama City.

Mississippi. G. L. Bond (May 25): Reported as annoying cattle in Harrison and Hancock Counties.

HORSEFLIES (Tabanus spp.)

Florida. A. L. Brody and E. E. Rogers (May 25): Tabanus sp. still active in vicinity of Panama City.

Mississippi. C. Lyle (May 25): Horseflies, probably T. fuscopunctatus Macq., were annoying cattle in Oktibbeha County.

A DEERFLY (Chrysops sp.)

Florida. A. L. Brody and E. E. Rogers (May 25): Still very active on cattle in the vicinity of Panama City.

OX WARBLE (Hypoderma spp.)

Utah. G. F. Knowlton (May 16): Some dairy cows at Richmond had a number of grubs under skin of their backs.

Washington. R. Roffler (April 29): Noticed attacking cattle throughout Wahkiakum County on March 30, which is earlier than usual according to the report.

E. Heinemann (May 8): Abundant on cattle near Odessa, in Lincoln County, on April 10.

L. G. Smith (May 22): Noticed attacking cattle in the Laurel and Lynden areas on May 14.

HORSE

SOUTHERN BUFFALO GNAT (Eusimulium pecuarum Riley)

Mississippi. C. Lyle (May 25): None seen in the Tallahatchie and Yalobusha River bottoms, where they are usually numerous at this time of the year.

Louisiana. F. C. Bishopp (May 25): Fifteen gnats submitted from horse ridden into a swamp at Mer Rouge for purpose of collecting. Reported as annoying to livestock on April 18 and May 4. (Det. by A. Stone.)

SHEEP

SHEEP BOTFLY (Oestrus ovis L.)

Florida. A. L. Brody (May 20): On May 8 at Panama City sheep were bunching and running with noses to ground, indicating activity of adults.

BLACK BLOW FLY (Phormia regina Meig.)

Alabama. J. M. Robinson (May 8): Specimen sent from Selma, taken from recently dehorned calf. (Det. by E. F. Knipling.)

Texas. E. W. Laake (May 23): Fleeceworm infestation near Dallas, 78 specimens being taken from 1 sheep. After these specimens were taken, the infested herd was shorn and no further infestations have been reported.

R. Melvin (May 13): Cases still somewhat numerous at Menard, but indications are that Cochliomyia macellaria F. are replacing P. regina.



PIGEON FLY (Pseudolynchia canariensis Macq.)

California. M. Ojeda (May 7): Found on domestic pigeon at Los Angeles on October 29, 1939. (Det. by A. Stone.)

DEFLUMING MITE (Onenidocoptes gallinae Raill.)

Nebraska. M. H. Swenk (May 17): Information requested from Hamilton County on control of this mite.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

TERMITES (Isoptera)

Vermont. H. L. Dailey (May 23): Collected in basement where swarm had occurred about April 15 in Brattleboro, Windham County. Report of similar occurrence several years ago. No damage noticed.

Rhode Island. A. E. Stone (May 29): Great number of complaints received.

Maryland. E. N. Cory (May 27): Heavy infestation in houses generally.

Tennessee. G. M. Dentley (May 20): Several swarms of Reticulitermes flavipes Koll. reported in different parts of the State.

Michigan. R. Hutson (May 21): R. flavipes reported in Albion, Fennville, Grand Haven, Kalamazoo, and Niles.

Iowa. C. J. Drake (May 21): Damage reported in DeWitt, Sioux City, Davenport, Des Moines, Cedar Rapids, and Sanborn.

Missouri. L. Haseman (May 21): During May a few additional complaints, particularly reports of swarming, received from different parts of the State.

Nebraska. M. H. Swenk (May 17): Infestation in building of R. tibialis Banks reported from Madison County on May 3.

Oklahoma. C. F. Stiles (May 22): Infestation in stone building in Kay County on May 1. Winged adults found emerging from beneath picture molding in room. Reported as damaging homes in Stillwater, Payne County.

Texas. R. K. Fletcher (May 7): Request for control in house in Caldwell County.

ANTS (Formicidae)

Massachusetts. W. B. Becker (April 14): Specimens of Tetranorium caespitum L. received from Dorchester. (Det. by M. R. Smith.)

M. M. Cole (May 7): T. caespitum taken from nest in building at Vineyard Haven. (Det. by M. R. Smith.)

- Rhode Island. A. E. Stene (May 29): Ants of various species seen unusually abundant. Bundle of shingles at Little Compton discovered to be full of carpenter ants which badly damaged many shingles.
- New York. N. Y. State Coll. Agr. News Letter (May 27): Cauliflower plants, one-third matured, attacked by small black ants. They destroyed approximately 100 plants or less than 0.5 percent of the total number.
- Maryland. E. N. Cory (May 27): Ants reported generally in houses.
- Virginia. F. R. Fround (May 6): T. caespitum brought to office approximately a dozen times this spring. (Det. by M. R. Smith.)
- Florida. H. Spencer (May 1): A little fire ant, Wasmannia auropunctata Roger, is coming out of the ground in citrus groves on the east coast and feeding on honeydew from insects on leaves. The smaller trails up trees indicate reduction in numbers of workers during the unusually cold winter.
- Mississippi. C. Lyle (May 25): Camponotus caryae rasilis Whlbr. reported as infesting house in Jones County.
- Ohio. E. W. Mondenhall (May 21): Black pavement ants, T. caespitum, are damaging garden plants and are annoying near a house at Columbus.
- Wisconsin. E. L. Chambers (June 1): Several infestations reported in houses in vicinity of Madison. Specimens submitted were apparently Lasius interjectus Mayr.
- Missouri. L. Haseman (May 21): Since middle of May the common small red house-ant has been attracting attention in central Missouri, and many inquiries received since May 1 of large red ants with nests around rocks and foundations of buildings.
- Nebraska. M. E. Swenk (May 17): Numerous complaints of injury, both indoors and out, chiefly in strawberry beds, received from April 15 to May 15 from Douglas, Holt, Lancaster, and Morrill Counties.
- Oklahoma. C. F. Stiles (May 22): Reported as seriously damaging rhubarb in Garfield County.
- Texas. R. K. Fletcher (May 17): Requests for control from Rusk County on May 1, and from Fannin County on May 13. Farm infested with countless nests of the red harvester ant (Pogonomyrmex barbatus F. Smith) on May 6 in Collin County.
- Mrs. J. W. McCollough (May 15): Lentogenys elongata Duckl. found preying on sowbugs at Dallas. (Det. by M. R. Smith.)
- Utah. G. F. Knowlton (May 10): Damaging seedling tomatoes in a coldframe at Logan. (May 15): Black ants damaging a lawn at Logan. (May 25): Annoying around a honey house and in bee yards at Nephi.

BEES AND WASPS (Hymenoptera)

General. E. A. Back (May 25): Polistes spp. troublesome in houses while emerging from hibernation in the following States: New York, New Jersey, Pennsylvania, Ohio, Michigan, and Illinois.

Massachusetts. A. I. Bourne (May 24): Numerous inquiries received relative to large numbers of and annoyance caused by wasps, mostly Polistes sp., which occurred in houses. Number of complaints greatly exceeds writer's experience.

Pennsylvania. E. A. Back (May 14): Specimens of a carpenter bee, Xylocopa virginica Drury, from Clark's Summit.

Maryland. E. A. Back (May 25): X. virginica received from two localities in Ma

COCKROACHES (Blattidae)

General. E. A. Back (May 25): Blattella germanica L. received during May from Maine, Massachusetts, Pennsylvania, Maryland, District of Columbia, Virginia, Illinois, and California. Oriental cockroach (Blatta orientalis L.) received during May from New Jersey, Illinois, Missouri, and Nevada. American cockroach (Periplaneta americana L.) received on May 20 from New York City and on May 11 from Detroit, Mich.

Ohio. E. W. Mendenhall (May 22): B. germanica very bad in many places where sacked potatoes have been sold, affording a means of distribution to houses.

Mississippi. C. Lyle (May 25): Annoyance reported from Hinds and Tippah Counties. American and German roaches very numerous and annoying along the Gulf coast. Several complaints of B. germanica reported from Grenada and Yalobusha Counties.

Nebraska. M. H. Swenk (May 17): Complaint from Nemaha County on April 22 of a house infested with B. germanica. B. orientalis troublesome in Douglas and Dodge Counties on April 18 and May 7, respectively.

Utah. G. F. Knowlton (May 1): B. germanica annoying at Logan and Ogden.

HOUSE CRICKET (Gryllus domesticus L.)

Pennsylvania. E. A. Back (May 25): Specimens collected from Upper Darby on April 19. Reported as destructive to fabrics in house.

BOXELDER BUG (Leptocoris trivittatus Say).

Michigan. R. Hutson (May 21): Reported in the southern part of the State.

Wisconsin. E. A. Back (May 25): Specimens received from house in Wauwatosa on May 9.



E. L. Chambers (June 1): Unusually abundant in Clark, Outagamie, Portage, Winnebago, and Wood Counties.

Iowa. C. J. Drake (May 21): Reported in considerable numbers from over the State.

North Dakota. J. A. Munro (May 23): Moderately abundant at Fargo.

Nebraska. M. H. Swenk (May 17): Proving troublesome in Richardson County, according to reports received on April 24 and 26.

Washington. L. G. Smith (May 8): Specimens sent in from Bellingham on January 22.

#### CLOVER MITE (Bryobia praetiosa Koch)

General. E. A. Back (May 25): Specimens received during first half of May from Massachusetts, Pennsylvania, District of Columbia, Virginia, Indiana, and Wyoming.

Pennsylvania. C. H. Gross (May 11): Pests coming in windows of house at York in great numbers. (Det. by H. E. Ewing.)

Illinois. W. P. Flint (May 21): Many reports received of invasions of houses by this pest, which has been more abundant this spring than during previous years.

Michigan. R. Hutson (May 21): Observed entering houses in the southern part of the State.

Minnesota. H. H. Shepard (May 18): During week of May 12 clover mites overran several houses in same block in Saint Paul.

Nebraska. M. H. Swenk (May 6): Complaint from Grant County of mites as annoying on porch.

Montana. H. B. Mills (May 9): Apparently more abundant than usual on broad-leaved herbs and entering dwellings in western part of the State.

#### POWDER-POST BEETLES (Lyctus spp.)

New York. E. A. Back (May 20): Attacking furniture in New York City.

Maryland. E. N. Cory (April 25): Infesting houses in Clarksville.

Mississippi. C. Lyle (May 25): L. parallelipedus Melsh. sent in from Jackson County. Door and window casings made of ash lumber were infested and adults were emerging.

Nebraska. M. H. Swenk (May 3): Oak flooring of a house in York County found to be damaged by L. planicollis Lec.

BORERS (Cerambycidae)

Massachusetts. A. I. Bourne (May 24): Larvae of Hylotrupes bajulus L. received from East Weymouth where they were reported as injuring wooden beams in a cellar. (Det. by W. H. Anderson.) (May 24): Larvae of Stenophenus sp. were received from Westhampton and reported to have been taken from white birch lumber. (Det. by W. H. Anderson.)

Pennsylvania. E. J. Udino (May 24): H. bajulus in several pieces of siding of a house at Carlisle. (Det. by F. C. Craighead.) Parasites determined by C. F. W. Muesebeck as Rhoptrocentrus piceus Marshall were found on this species.

Maryland. E. N. Cory (April 2): Xylotrechus colonus F. found at Owings Mills. (Det. by W. H. Anderson.) (May): Anacomis lignea F. was attacking houses in Silver Spring and Catonsville on April 24 and May 21, respectively.

Washington. L. G. Smith (April 29): Tetropium velutinum Lec. found attacking load of fir and larch wood in Spokane on January 8.

FLATHEADED BORERS (Buprestidae)

New York. C. W. Collins (May 1): Buprestis salisburyensis Hbst. found in house at Massapequa, Long Island. Hole noticed in door. (Det. by W. S. Fisher.)

Washington. M. H. Hatch (April 30): B. aurulenta L. found emerging from flooring of 20-year-old house in Seattle.

SPIDER BEETLES (Ptinidae)

Massachusetts. A. I. Bourne (May 24): Adults of Hadrobrogmus carinatus Say found in both hardwood and softwood beams and flooring in house at Amherst. Damage so severe that major replacements and repairs had to be made.

Virginia. E. A. Back (May 25): Mezium americanum Laporte and Gibbium psyllode Czemp. found in numbers from May 15 to 27 crawling in a house at Richmond.

Tennessee. E. A. Back (May 25): For 3 weeks prior to March 30 Ptinus fur L. was abundant in house in Chuckey.

A BOOK WORM (Neogastrallus librinocens Fisher)

Florida. E. A. Back (May 25): Destructive in library at Winter Park.

BEETLES (Anobiidae)

Vermont. H. L. Bailey (May 23): Cow stable at Williston, Chittenden County, northwestern Vermont, heavily infested with the drug-store weevil (Stegobium paniceum L.), probably from grain. Predaceous bug, Lyctocoris campestris F., determined by C. F. W. Muesebeck, was also abundant at same location.

Connecticut. N. Turner (May 23): Xestobium rufovillosum Deg. received in number from building in Middletown. Chairs seriously damaged in New Haven by Anobium punctatum Deg.

Virginia. P. K. Harrison and H. N. Pollard (May 15): Spring brood of the cigarette beetle (Lasioderma serricorne F.) began to emerge from stored tobacco at Richmond during the week ended May 14.

#### BEETLES (Dermestidae)

General. E. A. Back (May 25): Larvae of the black carpet beetle (Attagenus piceus Oliv.) received during May from Maine, New York, New Jersey, and Pennsylvania. Adults of the larder beetle (Dermestes lardarius L.) were swarming in large numbers over interior of house at Spring Valley, N. Y., on May 14. Adults of Anthrenus vorax Wtrh. received on May 15 from house in Westchester, N. Y. Adults of varied carpet beetle (A. verbasci L.) received from Haworth, N. J., on May 13. (Det. by H. S. Barber.)

Wisconsin. E. L. Chambers (June 1): Several complaints received of A. piceus. Larvae collected in houses.

Nebraska. M. H. Swenk (May 17): A. piceus reported as found in houses in Douglas County on April 25 and May 1, and in Washington County on May 11. Infestation of A. verbasci found on May 1 in Burt County.

#### BEAN WEEVIL (Acanthoscelides obtectus Say)

Michigan. E. A. Back (May 25): Found overrunning house on May 6 in Gladstone.

#### FLOUR BEETLES (Tenebrionidae)

Virginia. E. A. Back (May 25): Larvae of the yellow mealworm (Tenebrio molitor L.) were abundant, but only 3 adults seen on April 15 at Sunset Hills. Adults were very common and larvae rare on May 23. Larvae and adults of T. obscurus F. were overrunning house from May 15 to 22 in Lincolnia. House remodeled last winter from dairy barn.

Iowa. C. J. Drake (May 21): A black flour beetle Tribolium nadens Charp., taken in samples of small grain at Orange City. Also found at Webster City, Fort Dodge, and in other parts of State.

Washington. M. H. Hatch (May 1): Gnathocerus cornutus F. taken in a flour mill at Seattle. First record as a pest for the State.

#### BEETLES (Coleoptera)

Connecticut. E. A. Back (May 25): Specimens of fungus beetle, Typhea stercorea L., received with statement that they were in living quarters in a barn. (Det. by W. S. Fisher.)

Michigan. R. Hutson (May 21): Corticaria serrata Payk. received from Detroit where it was found feeding in damp area where eaves trough was plugged.



Wisconsin. E. L. Chambers (June 1): Oryzaephilus surinamensis L. reported and identified from several locations as a pest in stored foods.

Utah. G. F. Knowlton (April 22): Sweet corn infested by Sitophilus granarius L. Several sacks of seed corn at Roosevelt infested and injured 20 percent. (Det. by L. L. Buchanan.)

#### SNOUT MOTHS (Pyralidae)

General. E. A. Dack (May 25): Adults of the Indian-meal moth (Plodia interpunctella Hbn.) collected in Pennsylvania, Ohio, and Illinois during the first part of May.

Maryland. E. N. Cory (April 30): P. interpunctella in pantry at Cumberland.

Texas. E. A. Dack (May 21): Ephestia cautella Walk. from house at Lubbock insulated with cottonseed hulls. (Det. by C. Heinrich.)

#### ANGOUMOIS GRAIN MOTH (Sitotroga cerealella Oliv.)

Missouri. L. Haseman (May 21): Apparently almost destroyed by winter cold in grain in unheated cribs and bins, as samples of grain have shown no infestation, although taken from cribs that were badly infested last fall.

#### CLOTHES MOTHS (Tineidae)

Virginia. E. A. Dack (May 24): Tineola biselliella Hum. was developing in large numbers in hair shed by cat beneath house in Richmond.

Wisconsin. E. L. Chambers (June 1): Many requests for identification and control of T. biselliella and Tinea pellionella L.

Oregon. E. A. Dack (May 18): T. biselliella was infesting a bag of feathers in closet in house in Portland.

#### A NOCTUID (Epizeuxis aemula Hbn.)

Pennsylvania. E. P. Felt (May 23): Larvae, known to feed on dry fallen leaves and leaf refuse, appeared in numbers in a house in Philadelphia.

#### SPRINGTAILS (Collembola)

Pennsylvania. E. A. Dack (May 14): Troublesome in house at Philadelphia.

#### HOUSE CENTIPEDE (Scutigera forceps Raf.)

Illinois. E. A. Dack (May 25): Specimens received from Cicero on May 8.

#### SPECIAL NOTE

Kansas. R. C. Smith (May 7): Melitara dentata Grote was reared from larvae which bored through leaves of cactus plants and reduced numbers of these plants in pastures. Larvae more numerous last year than within memory of anyone here, and active again this spring. (Det. by C. Heinrich.)